REGULAR PLANNING COMMISSION AGENDA

April 14, 2026 at 6:00 PM

Assembly Chambers/Zoom Webinar

https://juneau.zoom.us/j/86847221296 or 1-253-215-8782 Webinar ID: 8868 4722 1296

A. LAND ACKNOWLEDGEMENT

We would like to acknowledge that the City and Borough of Juneau is on Tlingit land and wish to honor the indigenous people of this land. For more than ten thousand years, Alaska Native people have been and continue to be integral to the well-being of our community. We are grateful to be in this place, a part of this community, and to honor the culture, traditions, and resilience of the Tlingit people. *Gunalchéesh!*

B. ROLL CALL

C. REQUEST FOR AGENDA CHANGES AND APPROVAL OF AGENDA

D. APPROVAL OF MINUTES

1. March 24, 2026, Draft Minutes Regular Planning Commission — APPROVED

E. BRIEF REVIEW OF THE RULES FOR PUBLIC PARTICIPATION

F. PUBLIC PARTICIPATION ON NON-AGENDA ITEMS

G. ITEMS FOR RECONSIDERATION

H. CONSENT AGENDA

1. SMF2026 0001: Tlingit Haida Regional Housing Authority requests final plat approval for Phase 1 of Seet Kanax Duteen, consisting of 21 lots and one tract in the D18 zoning district for detached residential development. — APPROVED AS RECOMMENDED

Applicant: Lorraine DeAsis
Location: No existing address

DIRECTOR'S REPORT

THRHA requests final plat approval for Phase 1 of Seet Kanax Duteen, consisting of 21 lots and one tract in the D18 zoning district for detached residential development. The plat has been modified from the preliminary version (SMP2024-0001) after a more thorough analysis of the topography and existing drainage. The preliminary plat was designed to accommodate 25 lots with two tracts, A and B, to be set aside for future development. The current final plat will consist of 21 single-family residential lots and a large tract that would be subdivided at a later time. Sheix'w Deiyi (Red Alder Road) is a 60-foot right-of-way that will be provided as a CBJ adopted access within the subdivision and be consistent with Title 49.35.240, the table of roadway construction standards.

STAFF RECOMMENDATION
Staff recommends the Planning Commission adopt the Director's analysis and findings and APPROVE SMF2026 0001.

I. UNFINISHED BUSINESS

J. REGULAR AGENDA

1. FZE2026 0001: Flood Zone Exception for construction of a gymnasium/agricultural structure at Echo Ranch Bible Camp in an unnumbered Velocity (V) Zone. - APPROVED

Applicant: Ryan Regier
Location: 40001 Glacier Hwy

DIRECTOR'S REPORT
The applicant requests a Flood Zone Exception to allow the construction of a structure on an existing foundation to be used as a gymnasium by Echo Ranch Bible Camp (Echo Ranch) for five (5) months and agricultural storage for seven months (7) out of the year. The existing foundation was constructed in 1988 and was not evaluated for flood loads, general flood hazard protection, or the more stringent Zone V requirements. The proposed design and construction methods have not been certified by a licensed professional engineer or architect. Base flood elevation data for the site is inconclusive. The site is remote and does not have emergency services. Alternative construction sites outside the special flood hazard area are available.

STAFF RECOMMENDATION
Staff recommends that the Planning Commission adopt the Director's analysis and findings and DENY Flood Zone Exception FZE2026 0001.

K. OTHER BUSINESS

L. STAFF REPORTS

M. COMMITTEE REPORTS

N. LIAISON REPORT

O. CONTINUATION OF PUBLIC PARTICIPATION ON NON-AGENDA ITEMS

P. PLANNING COMMISSION COMMENTS AND QUESTIONS

Q. EXECUTIVE SESSION

R. SUPPLEMENTAL MATERIALS

1. Additional Materials

S. ADJOURNMENT

ADA accommodations available upon request: contact the Clerk's Office (907)586-5278 or city.clerk@juneau.gov at least 36 hours prior to a meeting, to request ADA arrangements.

DRAFT MINUTES

Agenda
Planning Commission
Regular Meeting
CITY AND BOROUGH OF JUNEAU
Erik Pedersen, Chair
March 24, 2026

A. LAND ACKNOWLEDGEMENT – Read by Ms. Rintala

We would like to acknowledge that the City and Borough of Juneau is on Tlingit land, and wish to honor the indigenous people of this land. For more than ten thousand years, Alaska Native people have been and continue to be integral to the well-being of our community. We are grateful to be in this place, a part of this community, and to honor the culture, traditions, and resilience of the Tlingit people. Gunalchéesh!

B. ROLL CALL

Erik Pedersen, Chair, called the Regular Meeting of the City and Borough of Juneau (CBJ) Planning Commission (PC), held in Assembly Chambers of the Municipal Building, virtually via Zoom Webinar, and telephonically, to order at 6 p.m.

Commissioners present:	Commissioners present in Chambers –Erik Pedersen, Chair; Lacey Derr, Vice Chair; Mandy Cole, Clerk; Jessalynn Rintala, Vice Clerk; Douglas Salik; Larry Gamez; Carlee Simon; Karinne Wiebold Commissioners present via video conferencing – Keith Koruna
Commissioners absent:	None
Staff present:	Scott Ciambor, CDD Planning Manager; Forrest Courtney, Senior Planner; Madeline Carse, CDD Administrative Assistant; Nicole Lynch, Attorney III; Justin Smith, Planner I; Kathryn Oberlin, Planner I
Assembly members:	Greg Smith

C. REQUEST FOR AGENDA CHANGES AND APPROVAL OF AGENDA

D. APPROVAL OF MINUTES

1. February 24, 2026, Draft Minutes Regular Planning Commission

MOTION: *by Ms. Derr to approve the February 24, 2026, Planning Commission Regular Meeting minutes.*

E. BRIEF REVIEW OF THE RULES FOR PUBLIC PARTICIPATION

F. PUBLIC PARTICIPATION ON NON-AGENDA ITEMS

G. ITEMS FOR RECONSIDERATION

H. CONSENT AGENDA

1. **VAR2025 0006:** Non-Administrative Variance to reduce the front yard setback from twenty-five (25) feet to five (5) feet to build a single-family structure in a D1(T)D3 zone.

   Applicant: Mallarie Yeager
   Location: 2765 Fritz Cove Road

Director's Report

The applicant requests a Non-Administrative Variance to reduce the front yard setback from twenty-five (25) feet to five (5) feet. Steep slopes (exceeding approximately 35%) constrain the buildable area and limit feasible placement of a single-family structure and two required off-street parking spaces on the lot. The variance would allow the family to construct a single-family structure and accommodate the two required off-street parking spaces. Staff finds the requested variance meets all criteria of CBJ Section 49.20.250(b)(1), Non-Administrative Variances.

Staff Recommendation

Staff recommends the Planning Commission adopt the Director's analysis and findings and APPROVE Variance VAR2025 0006

MOTION: *by Chair Pedersen to accept staff's findings, analysis, and recommendations, and approve VAR2025 0006.*

I. UNFINISHED BUSINESS

J. REGULAR AGENDA

1. **VAR2025 0007:** Non-Administrative Variance to reduce the front yard setback from 25 feet to 15 feet in a D3 zone to build a boat condo with overhead living space.

Applicant: Lucas Mesdag
Location: 16470 Ocean View Drive

Director's Report

The applicant requests a Non-Administrative Variance to reduce the front yard setback from 25 feet to 15 feet. The lot is developed and contains a single-family dwelling, ADU, sauna, driveway, grading, and drain field. The lot meets minimum size requirements for two single-family dwellings in the D3 zone. The requested setback reduction is to allow placement of a second dwelling, proposed as a boat condo with overhead living space. Staff finds the requested variance does not meet the criteria of CBJ 49.20.250(b)(1)(A), (B), and (D).

Staff Recommendation

Staff recommends the Planning Commission adopt the Director's analysis and findings and DENY Variance VAR2025 0007.

Lucas Mesdag, applicant, explained he had been looking for a place over the last couple years to put up a boat condo with a living space. He said that his dad proposed that he use the bottom part of his property, as he has not had any luck to do this elsewhere. He shared that when he brought this idea to the Planning Commission, they originally said he had a natural barrier with the drain field, but later the planner said it wasn't natural and they were going to deny it, as there is tons of space in the back of the property to build. The applicant voiced that it was up a slope in the back. He stated they are proposing putting the corner of the building within the setback, and he is just wanting to develop something where he can park his boat and increase housing. He did not believe he could make it any smaller.

Ms. Cole asked why not square it up, as it appears from the drawings it could be squared up.

Mr. Mesdag answered there was not space for it, as many boat condos are typically 50-60 feet long. He said this is the only way they think they could maybe get it where they can back up a truck and boat and it all be off the road. He added it would also require a lot of removal to try and make it flat, so that is less an ideal.

Mr. Salik inquired how far they would be getting into the setback.

Mr. Mesdag responded the best he can tell from the survey, it does get into the setback 10 feet, so it would reduce the setback from 25 to 15 feet.

Mr. Salik voiced that from the aerial, it looks like it is heavily wooded. He asked if anyone would be able to see it from the road.

Mr. Mesdag answered that everyone would notice, as it would completely different.

Mr. Gamez expressed the property is obviously on a slope. He asked if they decided to approve it, would it still be a steep driveway for the boat, truck, and everything else they would be parking there.

Mr. Mesdag responded that is why they proposed to place it down at the bottom, because he believes they could get it pretty close to street grade with some removal. He shared he was asked why they could not make it narrower, and the reason they can't is because the farther they go towards the back of the driveway, there is more of a slope and being able to back a boat up there would be difficult.

Ms. Wiebold asked for clarification that it is just the one little corner of the building that would be infringing on the setback.

Mr. Mesdag answered yes.

Ms. Simon inquired what the applicant's alternatives would be if they continue with the city's recommendation.

Mr. Mesdag responded it would be the end of this project on that piece of property, and he would then continue trying to find a different place to do it.

Ms. Simon asked if he would be interested in sizing it down or working with some orientation.

Mr. Mesdag said he would love to and would be open to suggestions. He stated there are size limitations with a project like this, as it has to be long enough to fit a boat, and he did not feel the garage door could be facing the street up against a setback because there would be times when everything is attached and he could be blocking the street, and if he was to push the aspect further up the hill, it would make it difficult to get it in.

Chair Pedersen asked for public testimony. There were none.

There were no questions for staff from the commissioners.

Chair Pedersen asked the commissioners for discussion.

Ms. Cole commented she could not support this as a variance, as variances are narrowly tailored to a specific few criteria, and she did not think the drain field met that criteria. She agreed they need housing, but that was not what the variance was for.

Chair Pedersen added there were three different findings in the staff report stating it did not meet the variance criteria. He said if they were to approve this variance, they would have to have some discussion as to why they thought this variance met those standards. He shared they have really tried to make variances not a normal thing to grant, so it is hard to meet that burden. He was not in support of granting the variance.

Ms. Derr understood this was the optimal placement for this size of condo, but it was not the only placement and size that could fit in this specific area, which furthers not meeting the criteria of a variance, so she was not in support.

Chair Pedersen expressed they all recognize the need for housing and that this could be a great project, but he did not agree with doing this with a variance.

MOTION: *by Ms. Derr to approve VAR2025 0007, a non-administrative variance to reduce the front yard setback from 25 feet to 15 feet in a D3 zone, to build a boat condo with overhead living space.*

The motion failed 8-1.

K. OTHER BUSINESS

L. STAFF REPORTS

Mr. Ciambor shared that Director Lawhorne is on leave through mid-May, and he will act as interim director for that time period. He said their next PC Meetings are April 14th and May 12th. He shared the Title 49 Advisory Meeting is meeting on April 9th, where they will talk about code changes. He said the Community Development Department is currently recruiting, as they have an Administrative Officer position, Planner 1, Planner 2, and two senior planners posted. The Comprehensive Plan Advisory Committee met last week and there are details online with information and data gathered in the last phase.

Ms. Derr asked if their department has considered a reclassification study of their planners to make the positions more attractive, allow for movement up or down, or if any letters or recommendation from the board could help their department in that area.

Mr. Ciambor responded he has been with HR a lot in the last couple of weeks to do things like that, and they made some modifications in their postings and are trying to be a little bit more aggressive in outreach as they get into their building season. He said they have gotten adequate and good attention from the HR Department in the last few weeks.
Ms. Simon asked for clarification they are not going to be meeting on April 28th.

Mr. Ciambor answered that is correct, as they do not have any cases for that date.

M. COMMITTEE REPORTS

Chair Pedersen reported the Title 49 Rewrite Committee met fairly recently, and at the April 9th meeting, they are going to go over the Table of Permissible Uses and a few other items. He said right now they are just trying to formulate the next round of revisions that are being forwarded to the Assembly.

N. LIAISON REPORTS

Mr. Smith expressed that at the March 17th Title 49 Rewrite Meeting, they discussed parking, drive-throughs, outdoor lighting, and outdoor storage. He said some of those are things not regulated or well-defined in code and others are in code but up for discussion on possible changes. He reiterated the main focus at the April 9th Meeting is to review the revised Table of Permissible Uses. In regard to the Assembly, they will soon get really deep into the budget process, and they will have the budget introduction on April 1st, where they will hear the first viewing of the CIP and marine passenger fee proposals. On April 11th, they will have an all-day Assembly meeting where the manager will present their budget, along with details and possible changes.

O. CONTINUATION OF PUBLIC PARTICIPATION ON NON-AGENDA ITEMS

P. PLANNING COMMISSION COMMENTS AND QUESTIONS

Q. EXECUTIVE SESSION

R. SUPPLEMENTAL MATERIALS

1. Additional Materials

S. ADJOURNMENT

The March 24, 2026 Planning Commission Meeting was adjourned at 6:36 p.m.

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

PLANNING COMMISSION STAFF REPORT
MAJOR SUBDIVISION SMF2026 0001
HEARING DATE: APRIL 14, 2026

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

DATE: April 6, 2026

TO: Erik Pedersen, Chair, Planning Commission

BY: David Peterson, Planner II

THROUGH: Scott Ciambor, Acting Director

PROPOSAL: THRHA requests final plat approval for Phase 1 of Seet Kanax Duteen, consisting of 21 lots and one tract in the D18 zoning district for detached residential development.

STAFF RECOMMENDATION: Approval

KEY CONSIDERATIONS FOR REVIEW:

- All conditions have been met.
- The proposed subdivision meets all Title 49 requirements.

GENERAL INFORMATION	
Property Owner	Tlingit & Haida Regional Housing Authority
Applicant	Lorraine DeAsis
Property Address	No existing address
Legal Description	USS 2135 TR II
Parcel Number	6D0601090020
Zoning	D18
Lot Size	767,527 square feet/17.62 acres
Water/Sewer	CBJ water and sewer provided to lot
Access	Douglas Highway
Existing Land Use	Vacant Lot
Associated Applications	SMP2024-0001

ALTERNATIVE ACTIONS:

1. **Amend:** amend the approval to require conditions.
2. **Deny:** deny the permit and adopt new findings for items 1-3 below that support the denial.
3. **Continue:** to a future meeting date if determined that additional information or analysis is needed to make a decision, or if additional testimony is warranted.

ASSEMBLY ACTION REQUIRED:

Assembly action is not required for this permit.

STANDARD OF REVIEW:

- Quasi-judicial decision
- Requires five (5) affirmative votes for approval
- Code Provisions:
  - CBJ 49.15.402
  - CBJ 49.15.412
  - CBJ 49.80

The Commission shall hear and decide the case per CBJ 49.15.400(a) - Purpose and applicability. *The purpose of this article is to facilitate the subdivision of land to promote the public health, safety, and general welfare of the citizens of the CBJ in accordance with the Comprehensive Plan of the City and Borough of Juneau, Alaska.*

And per CBJ49.15.402(a) - *A major subdivision permit is required for subdivisions resulting in 14 or more lots.*

SITE FEATURES AND ZONING

SURROUNDING ZONING AND LAND USES	
North (D18/D3)	Vacant/Residential
South (D18/D3)	Vacant/Residential
East (D3)	Residential
West (D3)	Vacant

SITE FEATURES	
Anadromous	N/A
Flood Zone	N/A
Hazard	N/A
Hillside	Hillside Endorsement required
Wetlands	Palustrine Forested Wetlands (PFO)
Parking District	N/A
Historic District	N/A
Overlay Districts	Urban/Rural Mining District Map

BACKGROUND INFORMATION

Project Description – The Applicant, is submitting phase 1 of Seet Kanax Duteen, a Major Subdivision of Tract II, a Fraction of USS 2135 (Tract II). The subdivision will consist of 21 single-family residential lots and a Tract. (**Attachment A, pg. 1, and Attachment B**).

The plat has been modified from the preliminary version after a more thorough analysis of the topography and existing drainage was conducted. The preliminary plat was designed to accommodate 25 lots with two tracts, A and B, to be set aside for future development. (**Attachment A, pg. 6 and 100**) The current final plat will consist of 21 single family residential lots and a large tract that would be subdivided at a later time. (**Attachment B**)

Sheix'w Deiyi (Red Alder Road) is a 60-foot right-of-way (ROW) that will be provided as a CBJ adopted access within the subdivision. It will be consistent with T49 49.35.240, Table of roadway construction standards.

Background -

The table below summarizes relevant history for the lot and proposed development.

Item	Summary
SMF2026-0001 Final Plat	A plat of Seet Kanax Duteen Subdivision, Phase 1. A subdivision of Tract II, A Fraction of USS 2135. Subdivision includes 21 lots and a large tract and a right-of-way which will later be adopted by CBJ. (**Attachment B**)
SMP2024-0001 Preliminary Plat	Preliminary plat for the first 25 lots (phase one), of a 46 unit single-family/multifamily development in a D18 zone. (**Attachment D**)
Notice of Decision for MAP2008-00004	A rezoning case approved by the planning commission March 11, 2010, that changed the zoning of the subject lot, and two others, from D3 to D18 increasing the density to 18 dwellings per acre. (**Attachment E**)
Water and Sewer Plans	Construction plans show the proposed water, sewer, and fire hydrant locations. All plans are being reviewed by CBJ General Engineering and Capital City Fire and Rescue. (**Attachment G**)
Street, Sidewalk, and Drainage plans	Construction plans show the proposed street, with emergency turnaround, sidewalks, and drainage plans. All plans are being reviewed by CBJ General Engineering. (**Attachment H**)

ANALYSIS

Compliance with Title 49 - This proposed final plat complies with T49, Major Subdivision Standards.

Preliminary Plat Conditions of Approval -

Condition	Status	Summary
Condition 1: Prior to final plat approval, provide unique street names for new streets providing access to Douglas Highway. Per 49.35.220.	☒Met ☐Unmet ☐On-going	Unique street name has been provided. (**Attachment B**)
Condition 2: Prior to recording the final plat, construction plans including street light locations at all intersections shall be submitted.	☒Met ☐Unmet ☐On-going	Construction plans have been provided. See (**Attachments G and H**)
Condition 3: Prior to recording the final plat, construction plans including sidewalk locations shall be submitted.	☒Met ☐Unmet ☐On-going	Construction plans have been provided. See (**Attachments G and H**)
Condition 4: Prior to recording the final plat, the construction plans including approved locations of fire hydrants shall be submitted.	☒Met ☐Unmet ☐On-going	Construction plans have been provided. (**Attachments G and H**)
Plat Note 1: WETLANDS ARE PRESENT ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY.	☒Met ☐Unmet ☐On-going	This has been added as Plat Note 14. (**Attachment B**)

Condition	Status	Summary
Plat Note 2: NO LOTS SHALL ACCESS DIRECTLY ONTO NORTH DOUGLAS HIGHWAY.	☒Met ☐Unmet ☐On-going	This has been added as Plat Note 15. (**Attachment B**)
Plat Note 3: THE ON- LOT STORMWATER RUNOFF DRAINAGE IS ACCEPTABLE AS EXISTS BETWEEN THE PLATTED LOTS OF THIS SUBDIVISION AND MAY NOT BE MODIFIED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120.1 BEST MANAGEMENT PRACTICES.	☒Met ☐Unmet ☐On-going	This has been added as Plat Note 16. (**Attachment B**)

AGENCY REVIEW

CDD conducted an agency review comment period between March 4, 2026 through March 19, 2026. Agency review comments can be found in **Attachment I**.

Condition 1: Prior to final plat approval, all agency comments shall be addressed.

Condition 2: Prior to final plat approval, certification from the CBJ Treasurer is required, confirming that all real property taxes and special assessments levied against the property for the year of recording have been paid.

Condition 3: Prior to final plat approval, the applicant has constructed all required improvements or provided a financial guarantee in accordance with CBJ 49.55.010.

PUBLIC COMMENTS

CDD conducted a public comment period between March 9, 2026 through April 10, 2026. Public notice was mailed to property owners within 500 feet of the subject parcel. (**Attachment J**) A public notice sign was posted on March 19, 2026, more than 2 weeks prior to the scheduled hearing. (**Attachment K**)

FINDINGS

Final plat approval criteria - Per CBJ 49.15.402(f)(3) the Director makes the following findings:

1. ***Has the applicant complied with any conditions or plat notes as required in the notice of decision approving the preliminary plat?***

   Analysis: No addition analysis needed.

   Finding: Yes. All conditions of preliminary plat approval have been met.

2. ***Has the applicant constructed all required improvements or provided a financial guarantee in accordance with CBJ 49.55.010?***

   Analysis: Applicant has provided construction plans for the required improvements.

Finding: Yes. Prior to final plat approval, the applicant has constructed all required improvements OR provided a financial guarantee.

3. Does the final plat meet the standards set forth in CBJ 49.15.412 for final plats?

Analysis: No additional analysis needed.

Finding: Yes. The final plat complies with CBJ 49.15.412 Final Plat Standards.

RECOMMENDATION

Staff recommends the Planning Commission adopt the Director's analysis and findings and Approve with Conditions the requested final plat. The permit would allow the final plat approval for Phase 1 of Seet Kanax Duteen, consisting of 21 lots and one tract in the D18 zoning district for detached residential development.
The approval is subject to the following conditions:

Condition 1: Prior to final plat approval, all agency comments shall be addressed.

Condition 2: Prior to final plat approval, certification from the CBJ Treasurer is required, confirming that all real property taxes and special assessments levied against the property for the year of recording have been paid.

Condition 3: Prior to final plat approval, the applicant has constructed all required improvements or provided a financial guarantee in accordance with CBJ 49.55.010.

STAFF REPORT ATTACHMENTS

Item	Description
Attachment A	Application Packet
Attachment B	Final Plat_V1
Attachment C	MIP26-01 - Closure Report
Attachment D	SMP24-01 Prelim Plat
Attachment E	MAP2008-00004 - Rezone
Attachment F	MF26-01 - DOT Permit with TIA
Attachment G	Water and Sewer Plans
Attachment H	STREET DESIGN PERMIT SET 2-11-26
Attachment I	Agency Review Comments
Attachment J	Abutters Notice
Attachment K	Public Notice Sign

Regional Housing Authority

January 15, 2026

Seet Kanax Duteen Subdivision Phase 1 Narrative

Legal Description:
Seet Kanax Duteen Subdivision Phase 1, a Subdivision of Tract II, a fraction of USS 2135 within City & Borough of Juneau, Alaska. Juneau Recording District. State Re order's Office at Anchorage, AK.

Existing Structures on the Land: None

Zoning District: D18

Density: 18 units per acre

Access: North Douglas Highway

Current and proposed use of any structures:
Current: No current structures on property
Proposed: Single Family Residential

Utilities Available:
Currently: None
Proposed: THRHA will install water, sewer, electric, phone/cable. All roads and utilities will be City/Borough of Juneau.

Unique characteristics of the land or structure(s):
An easement on Lot 9 has been established for snow storage.

Wetlands exist throughout this subdivision. Approval to impact these wetlands has been given by the U.S. Army Corp of Engineers.

Planning Commission
(907) 586-0715
PC_Comments@juneau.gov
www.juneau.org/community-development/planning-commission
155 Heritage Way • Juneau, AK 99801

PLANNING COMMISSION
NOTICE OF DECISION
Date: April 28, 2025
File No.: SMP2024 0001

Tlingit & Haida Regional Housing Authority
5446 Jenkins Drive
Juneau, AK 99801
jpata@thrha.org

Proposal:	Tlingit Haida Regional Housing Authority (THRHA) requests a preliminary plat review for the first 25 lots (phase one), of a 46 unit single-family/multi-family development in a D18 zone.
Property Address:	N Douglas Highway
Legal Description:	USS 2135 TR II
Parcel Code No.:	6D0601090020
Hearing Date:	April 22nd, 2025

The Planning Commission, at its regular public meeting, adopted the analysis and findings listed in the attached memorandum dated April 14th, 2025, and approved with conditions the preliminary plat to be conducted as described in the project description, the project drawings submitted with the application and with the following conditions:

1. **Condition 1:** Prior to final plat approval, provide unique street names for new streets providing access to Douglas Highway. Per 49.35.220.
2. **Condition 2:** Prior to recording the final plat, construction plans including street light locations at all intersections shall be submitted.
3. **Condition 3:** Prior to recording the final plat, construction plans including sidewalk locations shall be submitted.
4. **Condition 4:** Prior to recording the final plat, the construction plans including approved locations of fire hydrants shall be submitted.
5. **Plat Note 1:** WETLANDS ARE PRESENT ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY.
6. **Plat Note 2:** NO LOTS SHALL ACCESS DIRECTLY ONTO NORTH DOUGLAS HIGHWAY.

7. **Plat Note 3:** THE ON- LOT STORMWATER RUNOFF DRAINAGE IS ACCEPTABLE AS EXISTS BETWEEN THE PLATTED LOTS OF THIS SUBDIVISION AND MAY NOT BE MODIFIED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120.1 BEST MANAGEMENT PRACTICES.

Attachment: April 14th, 2025, memorandum from David Peterson, Planner II, Community Development, to the CBJ Planning Commission regarding SMP2024 0001.

This Notice of Decision does not authorize any construction. Prior to starting any project, it is the applicant's responsibility to obtain the required building permits.

This Notice of Decision constitutes a final decision of the CBJ Planning Commission. Appeals must be brought to the CBJ Assembly in accordance to CBJ 01.50.030. Appeals must be filed by 4:30 P.M. on the day twenty days from the date the decision is filed with the City Clerk, pursuant to CBJ 01.50.030(c). Any action by the applicant in reliance on the decision of the Planning Commission shall be at the risk that the decision may be reversed on appeal (CBJ 49.20.120).

Effective Date: The permit is effective upon approval by the Commission, April 22nd, 2025.

Expiration Date: The permit will expire five (5) years after the effective date, or April 22nd, 2030, if no Building Permit has been issued and substantial construction progress has not been made in accordance with the plans for which the subdivision permit was authorized or no final plat has been approved. Application for permit extension must be submitted thirty days prior to the expiration date.

mandy cole
Mandy Cole, Chair
Planning Commission

4/28/2025
Date

Madeline Carse
Filed With City Clerk

4/28/2025
Date

cc: Plan Review

NOTE: The Americans with Disabilities Act (ADA) is a federal civil rights law that may affect this subdivision. ADA regulations have access requirements above and beyond CBJ - adopted regulations. Owners and designers are responsible for compliance with ADA.

Contact an ADA - trained architect or other ADA trained personnel with questions about the ADA: Department of Justice (202) 272-5434, or fax (202) 272-5447, NW Disability Business Technical Center (800) 949-4232, or fax (360) 438-3208.

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

PLANNING COMMISSION STAFF REPORT
MAJOR SUBDIVISION SMP2024 0001
HEARING DATE: APRIL 22, 2025

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

DATE: April 14, 2025

TO: Mandy Cole, Chair, Planning Commission

BY: David Peterson, Planner II

THROUGH: Jill Lawhorne, Director, AICP

PROPOSAL: Tlingit Haida Regional Housing Authority (THRHA) requests a preliminary plat review for the first 25 lots (phase one), of a 46 unit single-family/multifamily development in a D18 zone.

STAFF RECOMMENDATION: Approval with conditions

KEY CONSIDERATIONS FOR REVIEW:

- The 17.62-acre lot has a maximum density of 317 dwellings. Due to site constraints, maximum proposed density is at 29%.
- Phase 1 will have between 25 and 50 dwelling units depending on whether single-family or multifamily is being used.
- AKDOT is requiring a TIA for potential density.
- PFO Wetlands are present on the site.
- Complete construction plans will be required prior to approving the final plat.

GENERAL INFORMATION	
Property Owner	Tlingit Haida Regional Housing Authority
Applicant	Tlingit Haida Regional Housing Authority
Property Address	N Douglas Highway
Legal Description	USS 2135 TR II
Parcel Number	6D0601090020
Zoning	D18
Lot Size	767,527 square feet/17.62 acres
Water/Sewer	CBJ water and sewer provided to lot
Access	Douglas Highway
Existing Land Use	Vacant Lot
Associated Applications	N/A

ALTERNATIVE ACTIONS:

1. **Amend:** require additional conditions or delete or modify the recommended conditions.
2. **Deny:** deny the permit and adopt new findings for items 1-6 below that support the denial.
3. **Continue:** to a future meeting date if determined that additional information or analysis is needed to make a decision, or if additional testimony is warranted.

ASSEMBLY ACTION REQUIRED:

Assembly action is not required for this permit.

STANDARD OF REVIEW:

- Quasi-judicial decision
- Requires five (5) affirmative votes for approval
- Code Provisions:
  - CBJ 49.15.400
  - 49.25.400
  - CBJ 49.35
  - CBJ 49.80

The Commission shall hear and decide the case per CBJ 49.15.400(a) – Purpose and applicability. *The purpose of this article is to facilitate the subdivision of land to promote the public health, safety, and general welfare of the citizens of the CBJ in accordance with the Comprehensive Plan of the City and Borough of Juneau, Alaska. Make sure this does not run off, see below – maybe move the box to the next page?*

And per CBJ 49.15.402(a) - A *major subdivision permit is required for subdivisions resulting in 14 or more*

SITE FEATURES AND ZONING

SURROUNDING ZONING AND LAND USES	
North (D18/D3)	Vacant/Residential
South (D18/D3)	Vacant/Residential
East (D3)	Residential
West (D3)	Vacant

SITE FEATURES	
Anadromous	N/A
Flood Zone	N/A
Hazard	N/A
Hillside	Hillside Endorsement required
Wetlands	Palustrine Forested Wetlands (PFO)
Parking District	N/A
Historic District	N/A
Overlay Districts	Urban/Rural Mining District Map

BACKGROUND INFORMATION

Project Description – The Applicant proposes the first phase of a subdivision of Tract II Subdivision, a Fraction of USS 2135 (Tract II). The narrative specifies a mix of single-family and multifamily dwellings throughout the development (**Attachment A**). The first phase of the development consists of 25 lots with the remaining two tracts, A and B, to be developed later (**Attachment B**). A 60-foot right-of-way (ROW) will be built for adoption by the City and Borough of Juneau (CBJ) upon completion (**Attachment C**).

Background – The table below summarizes relevant history for the lot and proposed development.

Item	Summary
Notice of Decision for MAP2008-00004	A rezoning case approved by the planning commission March 11, 2010, that changed the zoning of the subject lot, and two others, from D3 to D18 increasing the density to 18 dwellings per acre. (**Attachment G**)
2006 CBJ Zoning Map	A 2006 zoning map which classified the site as being D3. (**Attachment H**)
2001 Clarification Correspondence	This correspondence between a property owner (Buel Hixson) and a CBJ Planner (Sylvia Kreel) confirming that a stream does pass through an adjacent property, Lot 2B, but it is not a catalogued anadromous waterway. Page 3 of the document shows a southern stream that also traverses through Tract II. Page 2 of the document can attest that no fish above the highway were found and thus, the stream is not catalogued as anadromous. (**Attachment I**)
1987 CBJ Zoning Map	A 1987 zoning map which classified the site as being D3. (**Attachment J**)
1960 Subdivision Plat	A Subdivision of Fraction of U.S. Survey No. 2135 on Douglas Island, Alaska, thereby creating Tract I and Tract II. The current configuration of Tract II, the subject property, as it is known today. (**Attachment K**)

1918 U.S. Survey No. 2135	A Plat of U.S. Survey No. 2135 of the Homestead Claim of Joseph Simpson, Executed under the Act of Congress, Approved June 28, 1918. Area consists of 31.56 acres. Land would be subdivided in 1960 to create current configuration. (**Attachment L**)

ANALYSIS

Phasing – The Applicant proposes two phases. The first phase (under this application) is 25 lots. The second phase (shadow platted) proposes an additional 21 lots, for a total of 46 lots, for phase 2. A required sketch plat of Phase 2 has been included with the submitted construction plans (**Attachment C, pg. 5**).

Minimum Lot Dimensions – The proposed lots shown on the preliminary plat meet or exceed the dimensional standards listed in CBJ 49.25.400. The width of Tract II is 352.49 feet. The proposed lots range in size from approximately 8,700 square feet to 22,000 square feet.

Dimensional Standard	Requirement	Met?
Minimum Lot Size	5,000 square feet	☒Meets/Exceeds ☐Not met
Minimum Lot Width	50 feet	☒Meets/Exceeds ☐Not met

Density – The table below illustrates the number of dwelling units each lot can accommodate upon completion of the proposed subdivision. Per 49.25.510(a), if a density calculation results in a fractional dwelling unit, the fraction shall be rounded to the nearest whole number.

Although the D18 zoning designation allows for a higher density than what is being proposed, site constraints—including hillside runoff, grade variations, intersections, and other factors—limit development capacity (**Attachment F**).

Habitat – The Alaska Department of Fish and Game submitted a report of Grant Creek in 2004, which confirms there are no anadromous waterways above North Douglas Highway (**Attachment I**).

A wetland delineation map showing Palustrine Forested Wetland, wetlands dominated by woody vegetation such as trees and shrubs, are present throughout the site. US Army Core of Engineers (USACE) granted THRHA a Section 404 permit under the Clean Water Act to place fill in the wetland for a residential subdivision (**Attachment D**).

Please contact U.S. Fish and Wildlife to verify the presence of eagle nests that may be present.

Condition: N/A

Plat Note 1: WETLANDS ARE PRESENT ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY.

Hazard Zones – No known hazards regulated by CBJ are present on site.

Condition: N/A

Plat Note: N/A

TRAFFIC

Traffic – Per CBJ 49.40.300(2) A development projected to generate fewer than 250 ADT shall not be required to have a traffic impact analysis. At this time, the Director has determined that a TIA is not required. Future phases may trigger the threshold requiring a TIA.

Use	ADT per lot	Trips Generated	Total Trips
(25) single-family	9.52	238	238
(46) single-family	9.52	437.95	437.95
(25) 2-unit multifamily	9.52 * 2	476	476
(46) 2-unit multifamily	9.52 * 2	875	875
Total proposed ADTs:			**238 – 875**

Condition: N/A

Plat Note: N/A

ACCESS AND PUBLIC IMPROVEMENTS

Access – Primary access to the subdivision is Douglas Highway. The Applicant proposes a public ROW for direct and practical access to each lot. The ROW will be accepted by CBJ once completed, as required by CBJ 49.35.250.

Arterial Streets - According to the Roadway Classification Map, Douglas Highway is a minor arterial. The below table lists requirements for subdivisions along arterial streets.

Per 49.35.210(b), (1) The plat shall note that no lots shall access directly onto the *arterial*; (2) Access shall be provided onto an interior access street or a separate frontage road. (3) A parcel of land with less than 500 feet of frontage on a street. The lot has ~362 feet of frontage along Douglas. Lots will gain access to Douglas Highway by rights-of-way within the development.

Standard	Requirement	Met?	Conditions and Plat Notes
CBJ 49.35.210(b)(1)(2) Access Restricted	No lot created through the subdivision shall have direct access onto an arterial street. A separate access street or frontage road is required.	☒Meets/Exceeds ☐Not met	**Plat Note:** No lots shall access directly onto North Douglas Highway. Access shall be provided onto an interior access street. Per CBJ 49.35.210(b)(1)&(2).

Standard	Requirement	Met?	Conditions and Plat Notes
CBJ 49.35.210(b)(3) Access Exception – Parcels with less than 500 feet of frontage or 350 feet in depth	• All of the lots must share a common access point and further subdivision of the newly created lots is not allowed. The applicant has submitted a plan demonstrating parking standards can be met – no back-out parking is allowed. • A signed maintenance agreement has been provided.	☒Meets/Exceeds ☐Not met	**Condition:** Provide unique street names for new streets providing access to Douglas Highway. Per 49.35.220.

Condition 1: Prior to final plat approval, provide unique street names for new streets providing access to Douglas Highway. Per 49.35.220.

Plat Note 2: NO LOTS SHALL ACCESS DIRECTLY ONTO NORTH DOUGLAS HIGHWAY.

CBJ 49.35.240 Table of Roadway Construction Standards -

ADTs	TIA	Sidewalks	Travel Way Width	Street Lights	ROW Width	Paved	Publicly Maintained
437.95	No	Along one side	24 feet	Yes	60 foot	Yes	Yes

Street Lighting – Per the table in 49.35.240, for ADT of 212 to 499, streetlights are required at intersections. The submitted construction plans (**Attachment C**) do not include street lighting location at all intersections.

Condition 2: Prior to recording the final plat, construction plans including street light locations at all intersections shall be submitted.

Plat Note: N/A

Pedestrian Access – Per 49.35.240, Average Daily Trips of 212 to 499 require sidewalks to be included along one side of the paved street. The submitted construction plans (**Attachment C**) do not include sidewalk location.

Condition 3: Prior to recording the final plat, construction plans including sidewalk locations shall be submitted.

Plat Note: N/A

Drainage – A drainage study was submitted and accepted by General Engineering. (**Attachment E**)

Condition: N/A

Plat Note 3: THE ON- LOT STORMWATER RUNOFF DRAINAGE IS ACCEPTABLE AS EXISTS BETWEEN THE PLATTED LOTS OF THIS SUBDIVISION AND MAY NOT BE MODIFIED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120.1 BEST MANAGEMENT PRACTICES.

Fire Code Improvements – Per IFC Appendix C for Hydrant Location and Distribution and Appendix D for Fire apparatus Access Roads, fire hydrants are required. The submitted construction plans (**Attachment C**) do not include fire hydrant locations.

Condition 4: Prior to recording the final plat, the construction plans including approved locations of fire hydrants shall be submitted.

Plat Note: N/A

AGENCY REVIEW

CDD conducted an agency review comment period between March 4, 2025 – March 19,2025. Agency review comments can be found in **Attachment N**.

Agency	Summary
General Engineering (CBJ)	A complete set of construction plans which reflect all required improvements.
Capital City Fire and Rescue (CCFR)	Fire hydrants will need to be included per the guidelines in the IFC: Appendix C for Hydrant Location and Distribution; and Appendix D for Fire apparatus Access Roads.
(AKDOT)	DOT&PF is requiring access to be constructed as an approach road. DOT will require a TIA (**Attachment M**).
Cartography (CBJ)	Comments addressed through preliminary plat review process.

PUBLIC COMMENTS

CDD conducted a public comment period between March 18, 2025 – April 3, 2025. Public notice was mailed to property owners within 500 feet of the subject parcel (**Attachment O**). A public notice sign was also posted on-site two weeks prior to the scheduled hearing (**Attachment P**). No public comments were submitted at time of writing this staff report.

FINDINGS

Major Subdivision Preliminary Plat Approval Criteria - Per CBJ 49.15.402(c)(4), the Director makes the following findings on the proposed development:

1. ***Does the preliminary plat comply with CBJ 49.15.411?***

   Analysis: No additional analysis needed.

   Finding: Yes. With recommended conditions, the preliminary plat complies with preliminary platting requirements listed in CBJ 49.15.411.

2. ***Will applicable subdivision development standards be met, or can reasonably be met with conditions?***

   Analysis: The applicant is required to submit a full set of construction plans with improvements. Prior to final plat approval, conditions will be met.

   Finding: Yes. With recommended conditions, applicable subdivision development standards can be reasonably met.

3. ***Will the proposed subdivision provide suitable building sites for the zoning district?***

   Analysis: Lots created through this subdivision meet minimum dimensional requirements for the D18 zoning district; these lots can reasonably meet setbacks and other dimensional requirements.

   Finding: Yes. The proposed subdivision provides building sites suitable for the D18 zoning district.

4. ***Will the proposed street names be unique or continuations of existing streets?***

   Analysis: No additional analysis needed.

   Finding: Yes. Prior to final plat approval, street names will be provided.

5. ***Has the Director of Engineering and Public Works reviewed the application and determined that?:***

   (i) The subdivision can be constructed to conform to applicable drainage and water quality requirements.

   (ii) The streets, pioneer paths, and pedestrian ways as proposed accommodate anticipated traffic, align with, and, where appropriate, connect with streets and pedestrian ways serving adjacent properties.

   (iii) Any proposed improvements conform to the requirements of this Title 49 and can be feasibly constructed; and,

   (iv) Where public sewer is not required, the applicant has shown that soils are suitable for individual on-lot wastewater treatments and disposal or has shown the feasibility of alternative methods of wastewater disposal and treatment.

Analysis: General Engineering has reviewed the 30% construction plan that has been submitted.

Finding: Yes. Engineering and Public Works has reviewed the proposed subdivision application and supplemental materials and believes the above criteria can be met.

RECOMMENDATION

Staff recommends the Planning Commission adopt the Director's analysis and findings and APPROVE with Conditions the requested preliminary plat for the Seet Kanax Duteen. This permit would allow the applicant to submit for the final plat, with the following conditions:

Condition 1: Prior to final plat approval, provide unique street names for new streets providing access to Douglas Highway. Per 49.35.220.

Condition 2: Prior to recording the final plat, construction plans including street light locations at all intersections shall be submitted.

Condition 3: Prior to recording the final plat, construction plans including sidewalk locations shall be submitted.

Condition 4: Prior to recording the final plat, the construction plans including approved locations of fire hydrants shall be submitted.

Plat Note 1: WETLANDS ARE PRESENT ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY.

Plat Note 2: NO LOTS SHALL ACCESS DIRECTLY ONTO NORTH DOUGLAS HIGHWAY.

Plat Note 3: THE ON- LOT STORMWATER RUNOFF DRAINAGE IS ACCEPTABLE AS EXISTS BETWEEN THE PLATTED LOTS OF THIS SUBDIVISION AND MAY NOT BE MODIFIED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120.1 BEST MANAGEMENT PRACTICES.

STAFF REPORT ATTACHMENTS

Item	Description
Attachment A	Application Packet
Attachment B	Preliminary Plat
Attachment C	Construction Plans
Attachment D	Wetland Map
Attachment E	Drainage Study
Attachment F	Single vs. Multifamily
Attachment G	Rezone Approval
Attachment H	2006 Zoning Map
Attachment I	Anadromous Stream Determination
Attachment J	1987 Zoning Map
Attachment K	1960 Plat
Attachment L	1918 U.S. Survey
Attachment M	AKDOT TIA Requirements Email
Attachment N	Review Comments
Attachment O	Abutters Notice
Attachment P	Public Notice Sign Posted

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: 0 N Douglass Highway

Legal Description(s) (Subdivision, Survey, Block, Tract, Lot): Tract II, USS 2135

Parcel Number(s): 6D0601090020

☐ 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: Tlingit Haida Regional Housing Authority
Contact Person: Jacqueline Pata, President/CEO
Mailing Address: 5446 JENKINS DRIVE, JUNEAU, AK 99801
Phone Number(s): (907) 780-6868
E-mail Address: jpata@thrha.org

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.

Jacqueline Pata — Landowner/Lessee (Printed Name)
President/CEO — Title (e.g.: Landowner, Lessee)

X _____ — Landowner/Lessee (Signature)
11-27-2023 — 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
11-27-2023 — Date of Application

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

Intake Initials	
JPM	
Case Number	Date Received
SMP24-001	1/4/24

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

Seet Kanax Duteen Subdivision - A Subdivision of Tract II, Subdivision of Fraction of USS 2135 creating Lots 1-25 and Tract A & B

Number of Existing Parcels 1 Total Land Area 17.624 ac Number of Resulting Parcels 27

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	$2,970	27 lots @ $110		
Admin. of Guarantee	$ -			
Adjustment	$150.00	PWD notice.		
Total Fee	$3,120.00			

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

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

Case Number	Date Received
SMP24-001	4/4/24

I:\FORMS\PLANFORM\Subdivision Application.docx

Revised October 2019 - Page 1 of 1

R&M ENGINEERING-KETCHIKAN, INC.
ENGINEERS ARCHITECTS SURVEYORS

7180 REVILLA ROAD, SUITE 300, KETCHIKAN, ALASKA 99901
PHONE: 907-225-7917 FAX: 907-225-3441 www.ketchikanengineer.com

October 16, 2023

City and Borough of Juneau
permits@juneau.gov
Re: Seet Kanax Duteen Subdivision Narrative

The purpose of this memorandum is to and to provide a narrative for the subject project, satisfy the requirements of the City and Borough of Juneau's Subdivision and Development Plan Application, and address the requirements in the Article II - Hillside Development in the City and Borough of Juneau Code of Ordinances (excerpts from the code along with answers and/or references to specific locations within the design plans are shown below).

Development Narrative:

The purpose of this subdivision is to allow for the development of 25 new lots and future development of the 2 remaining tracts. These lots will be used for single and multifamily housing to help alleviate housing needs in the Juneau/Douglas area. A road will be developed in accordance the submitted design plans to provide access to these new parcels. Municipal water, sewer, and power will also be installed.

Development Plan Application and Pre-Application Conference Items:

Legal Description:

The legal description for the parcel to be subdivided is Tract II, USS 2135 as shown on Plat 273

Existing Structures on the Land:

There are no existing structures on this parcel. The only development on this land is a logging road with a gate.

Zoning District/Density:

The zoning for this parcel is D-18 multi-family. The proposed use is individual parcels with single and multi-family houses.

Access:

The parcel is accessed from N Douglass Highway. The proposed ROW will be 60' in width. The first phase will provide a single entry point with a loop. The second phase will provide a second entry/exit point from/to N Douglas Highway using the adjoining property and a platted ROW.

Current and Proposed Use of Any Structures:

There are currently no structures on this parcel. The proposed plat calls for 27 parcels and 25 new housing structures.

Utilities Available:

An existing sewer manhole is located on the shoulder of N. Douglas Highway at the subdivision entrance. This manhole would be utilized for all sewer needs on this parcel. A water line is located in N. Douglas Highway, but the pressure is not adequate to supply the new subdivision. A booster station and possible water tank may need to be installed to service the subdivision.

Unique Characteristics of the Land or Structure(s):

The land is steep and requires steeper than usual road grades. A road grade of 15% will be required to access and develop the property.

PAC 2023 0023 Item 1-4, 6-9, 11, 15, 17-18:

No comment. Agreed.

PAC 2023 0023 Item 5 - Traffic Impact Analysis:

Not yet performed.

PAC 2023 0023 Item 10 - Noise:

Note included in the design plans.

PAC 2023 0023 Item 12 – Hazard/Mass Wasting/Avalanche/Hillside Endorsement:

Hillside Endorsement included below.

PAC 2023 0023 Item 13 - Wetlands:

A wetlands delineation was performed by Kai Environmental and a USACOE permit was submitted.

PAC 2023 0023 Item 14 - Habitat:

Performed as part of the USACOE permit process.

PAC 2023 0023 Item 16 - Traffic:

Analysis not yet performed.

PAC 2023 0023 Item 19(a-c) – Engineering:

A 35% design plan is included with this submittal. This plan includes typical sections and drainage systems; but does not include booster station, water reservoir, etc. The proposed development is to be greater than 1 acre, so a Notice of Intent will have to be filed with ADEC and a Storm Water Pollution Prevention Plan will have to be developed by the contractor. The next phase of the design plans will include an Erosion and Sediment Control Plan with notes for the proposed development. This plan will most likely utilize perimeter controls in the form of silt fences and straw waddles, construction entrances/exits, vegetative buffers, inlet protections in the form of straw bales and geotextile fabrics, and rock check dams. The finished site will be fully

stabilized with developed roadways, rocked embankments, and seeded slopes. The finished storm drain structures will be comprised of curb and gutter, ditches, and culverts that convey water to existing storm drain culverts in the ditch line of the Douglas Highway. There are (2) existing 24" CPPs that convey and discharge storm water across the Douglas Highway and onto "NIELS LT 2" property.

PAC 2023 0023 Item 20 – Drainage:

Drainage easements will be pursued to preserve these drainage structures. See the drainage narrative above. A drainage plan will be submitted with the final design plans.

PAC 2023 0023 Item 21 – Utilities:

See design plans.

PAC 2023 0023 Item 22 – Fire Items/Access:

Booster station will be incorporated into the next design phase. The booster pump will be designed to meet 25 psi at the highest point. The design engineer will work with CBJ to ensure the correct flow rate and psi is achieved.

PAC 2023 0023 Item 23&24 – Other Applicable Agency Review:

a) AKDOT&PF Driveway Permit – Will be applied for after preliminary plat approval
b) ADEC ESPR Wastewater Division Approval to Construct - Will be applied for after preliminary plat approval
c) ADEC Drinking Water Division Approval to Construct - Will be applied for after preliminary plat approval
d) APDES SWPPP NOI - Will be applied for before construction
e) USACOE permit (PENDING)

Hillside Endorsement

49.70.240 - Application.

The application shall be accompanied by the following materials, which shall be signed and stamped by a civil engineer,architect, geologist or land surveyor licensed in the State of Alaska:

(1) A vicinity map, at a clear and legible scale, showing roads, place and street names and natural waterbodies.

See the (2) vicinity maps at the end of this document. Generally, the existing site slopes from the hillside to the southwest down to the Douglas Highway. Receiving storm drain structures are located in the southwest side ditch line of Douglas Highway. These storm drainage structures convey storm water across Douglass Highway to the marine waters of Gastineau Channel.

(2) Site maps, showing the present condition of the site at a clear and legible scale compatible with the size of the development and including:
(A) Two-foot contours for flat terrain or five-foot contours for steep terrain and extending 50 feet in all directions beyond the development site; 12 percent line, 30 percent line;

See existing conditions, overall site plan, and plan and profile sheets.

(B) Water bodies, tidelands and drainage ways from the development site to accepting natural waterbody;

See existing conditions, overall site plan, plan and profile sheets, and the (2) vicinity maps at the end of this document. Generally, all storm water is conveyed to Gastineau Channel.

(C) Lot boundaries and easements for the site and adjacent lots; and

See design plans and preliminary plat.

(D) Existing improvements on the site and adjacent lots, including structures, roads, driveways and utility lines.

See existing conditions sheet. This parcel is mostly vacant and forested with a single logging road providing access currently.

(3) The application shall include a finished proposed site plan at a clear and legible scale that includes the following information:

(A) Finished grade at two-foot contours for flat terrain or five-foot contours for steep terrain and extending 50 feet in all directions beyond the development site; 12 percent line, 30 percent line.

See design plans

(B) Water bodies, tidelands and drainage ways, and temporary and permanent drainage systems from the development site to the accepting natural waterbody.

See design plans. Generally, all storm water is conveyed to Gastineau Channel via ROW and culverts.

(C) Lot boundaries, easements, and setback lines.

See design plans and preliminary plat.

(D) The location of improvements including structures, roads, driveways, utility lines, culverts, walls and cribbing.

See design plans.

(E) Clearing limits of existing vegetative cover.

See design plans. The clearing limits are 5’ beyond the finish grade slope catch line.

(F) A cross section of the development site.

See section views.

(4) The application shall include detailed engineering drawings of roads, driveways, parking areas, structural improvements for foundations, off-site stormwater runoff systems; cross sections and road elevations.

See design plans.

(5) A description of the source and type of any off-site fill, and the site for depositing excess fill.

Any unsuitable material removed from the site will be disposed at an approved waste site provided or sourced by the contractor. Imported fill will come from a commercial rock source provided or sourced by the contractor.

(6) A landscaping plan, including all trees to be retained in excavation areas, all plant species and locations; temporary slope protection measures; erosion and siltation control measures; seeding or sodding materials, a planting and maintenance program; and methods of stabilization and protection of bare slopes.

All exposed slopes and pads will be stabilized to 2H:1V or 1.5H:1V with embankment or armor rock. An ESCP is included in the design plans.

(7) An engineering geologic report, including a summary of the relevant surface and bedrock geology of the site, a discussion of active geologic processes with conclusions and recommendations regarding the effect of geologic factors on the proposed development; data regarding the nature, distribution and relevant parameters of existing soils, recommendations for grading procedures; design criteria for corrective measures as necessary, and recommendations covering the suitability of the site for the proposed development.

The geologic report is pending. This investigation will consist of digging test holes along the ROW with an excavator. The holes will be cataloged in a report that will describe the depth, soil strata, bedrock, water table, etc. In general, the site is believed to be shallow bedrock covered by overburden and vegetation. The slope of the property where development will occur is >12%. A portion of the road is proposed to be 15% to reduce significant soil cuts. The roadway will be fully stabilized and the fore slopes will be 2H:1V with seeding or 1.5H:1V with armoring. The building pads are not yet designed, but will generally be shotrock and fully stabilized. A copy of the geologic report will be submitted as soon as it is available.

(8) A work schedule, by phase.

Construction is anticipated to begin in mid 2024. Construction of all site work, utilities, and structures is anticipated to take 8-12 months.

(9) Such other different or more detailed submissions as may be required.

No comment.

Attachments:

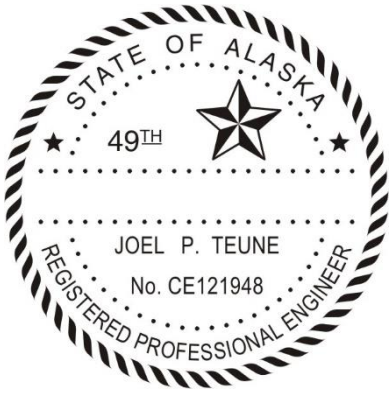
1) Preliminary Plat Subdivision – Application
2) Preliminary Plat Checklist
3) PAC23-023 Final Notes (Pre-App Conference Notes)
4) Development Permit Application
5) (5) 24x36 Preliminary Plat and Worksheet
6) Certificate to Plat w/Supporting Docs
7) Lot Closure Reports
8) 35% Design Plans
9) USACOE Application
10) Fee (27 proposed lots = $2,700) (to be paid by applicant)

Please call or email me with questions. 907-225-7917 ext. 2 or jteune@rmketchikan.com

Sincerely,

R&M Engineering-Ketchikan, Inc.

Joel Teune, P.E.



Eagle Creek

Mike Hatch Sales And Service
N Douglas Hwy
Egan Dr
Seet Kanax Duteen
N Douglas Hwy
Egan Dr
Juneau Makerspace
Juneau
Breeze In - Douglas

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

(907) 586-0715
CDD_Admin@juneau.org
www.juneau.org/community-development
155 S. Seward Street • Juneau, AK 99801

N Douglas Major Subdivision

Case Number:	PAC2023 0023
Applicant:	Loraine DeAsis
Property Owner:	Tlingit/Haida Regional Housing Authority
Property Address:	¾ mile North Douglas HWY/USS 2135 Tract II.
Parcel Code Number:	6D0601090020
Site Size:	767,527sqft/17.62ac.
Zoning:	D18
Existing Land Use:	Vacant

Conference Date:	July 12, 2023
Report Issued:	August 24, 2023

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
Lorraine DeAsis Ralph Weatherby Joel Teune Jacki Kus.een Pata	Applicant	LDeAsis@thrha.org RWeatherby@thrha.org Joel@rmketchikan.com JPata@thrha.org
Jennifer Shields David Peterson	Planning	Jennifer.Shields@juneau.gov David.Peterson@juneau.gov
Sydney Hawkins	Permit Tech	Sydney.Hawkins@juneau.gov
Bridget LaPenter	General Engineering	Bridget.LaPenter@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

Materials Received:

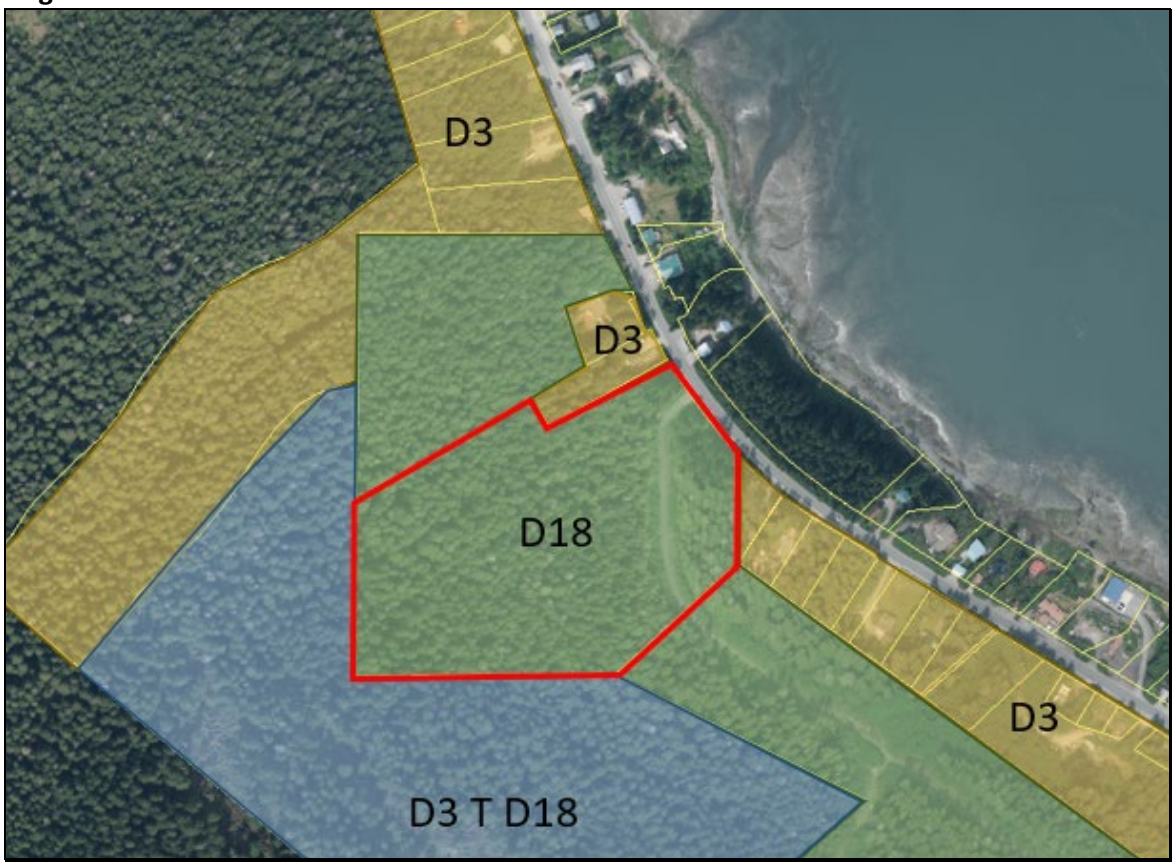
- PAC meeting Request and project summary email.
- R&M Engineering Site plan.

"Tract II, Plat 273, US Survey 2135 on North Douglas Island (Per Dept of Natural Resources Records) 17.624 acres zoned D-18 multifamily, formerly owned by the Catholic Church. There are 48 boxes on the attachment I sent, but only 27 are numbered as that is the proposed first phase. This has not been formally discussed with staff before. We are requesting this meeting to formally discuss this project so we can start working on the packet to get the development approved and engineering started." – Lorraine DeAsis

Major Subdivision Process Outline: (Per 49.15.402)

1. Preliminary Plat Submittal to include: (*NOTE: Prelim Plat Review Process may take up to 2 months to complete*.)
    a. Filled application.
    b. Narrative
    c. PAC Notes from meeting.
    d. Pay application Fee.
    e. Submit PDF original of preliminary plat for department circulation.
    f. HAZMAT/Environmental hazard report if applicable.
2. Public notice will be sent to neighbors within 500 feet of subdivision.
3. Issuing of recommendation of decision will be submitted to Planning Commission (PC) for consideration.
4. Notice Of Decision (NOD) will be issued post PC meeting.
    a. Conditions for subdivision may be required.
    b. Plat notes added to Final Plat.
5. Final Plat Application to be submitted with appropriate fee.
    a. Final Plat review.
6. Note: Approval of each phase may happen all at once; OR, if subsequent phases are subject to change, changes/alterations from the approved prelim plat will require PC approval.
7. The Chair of the Commission shall sign the final plat upon final determination that the Final Plat meets all of the requirements of this title.
    a. Property Taxes will need to be paid prior to Final Plat recording.
    b. Bonding for all improvements will need to be established prior to final plat recording.

Planning Division



1. **Zoning** – D18 – 18 units per acre.
    i. Minimum lot size – 5,000sqft. Bungalow lot size – 2,500sqft.
    ii. Minimum lot width – 50ft. Bungalow lot width – 25ft.
    iii. Maximum Lot coverage – 50%

    Table of Permissible Uses –

    b. One Single Family detached per lot.
        i. Accessory apartment allowed with Conditional Use Permit.
    c. One Duplex allowable per lot.
        i. Multifamily structure allowed with Conditional Use Permit.
2. **Subdivision** – Proposed Subdivision Name: Seet Kanax Duteen.
3. **Setbacks** – Per 49.25.400(note 3) Where one district abuts another, the greater of the two setbacks is required for both uses on the common property line. Subject property abuts D3 zones.
    a. D18 - Front: 20ft; Rear: 10ft; Side: 5ft; Street Side: 13ft.
    b. D3 – Front: 25ft; **Rear: 25ft**; **Side: 10ft**; Street Side: 17ft.

    NOTE: Lots 2-6; Lots 23-26; Lot 27; Potentially Tract 'A'; would be required to adopt the D3 setback along the side abutting the D3 zones.

4. **Height** – Permissible: 35ft; Accessory/Bungalow: 25ft.

5. **Access – 49.35.250**

    a. (a) *Principal access to the subdivision.* Except as provided below, the department shall designate one right-of-way as principal access to the entire subdivision. Such access, 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.

    Ref. 49.35.240 Table of Roadway construction Standards. For Right of Ways with 212-499 Average Daily Trips (ADT), applicant may need to perform and submit a Traffic Impact Analysis. Sidewalk, curb and gutter will be required along one side. The travel way width shall be 24 feet. The ROW shall be 60 feet in width, with paved roadway. ROW will be Publicly Maintained once adopted by CBJ.

6. **Parking & Circulation**– Developer must submit documentation to demonstrate that applicable parking code requirements have been met, in conformance with this chapter.
    a. Single Family/Duplex – 2 spaces per unit.
    b. Accessory apartments – 1 space per unit.
7. **Lot Coverage –** D18: Maximum Lot coverage – 50%.
8. **Vegetative Coverage** – D18: 30% Minimum Allowable/Bungalow/Conditional.
9. **Lighting** – N/A

10. **Noise** – Per 42.20.095(c) - *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. Such a permit shall be issued by the building official only upon a determination that such operation during hours not otherwise permitted under this section is necessary and will not result in unreasonable disturbance to surrounding residents. The building official may revoke any noise permit after making written findings that the construction activity has resulted in unreasonable disturbance to surrounding residents or that operation during hours not otherwise permitted is not necessary.
11. **Flood** – N/A
12. **Hazard/Mass Wasting/Avalanche/Hillside Endorsement** – Per 49.70.210(a)(2) - A hillside endorsement will be required for any excavation of slopes in excess of 18%. CBJ GIS site indicates slopes of ~40% are present on property.
13. **Wetlands** – No recorded wetlands present in CBJ records. If wetlands are discovered on parts of the proposed development, special regulations may apply.
14. **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.
15. **Plat or Covenant Restrictions** – TBD

16. **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.

Building Division

17. **Building** – N/A
18. **Outstanding Permits** – N/A

General Engineering/Public Works

19. **Engineering** –
    a. To adhere to 49.15.402 (C) (4) (E) CBJ requests 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 are 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 Alaskan licensed engineers for each discipline. Construction plans for this layout of development do 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.
20. **Drainage** –
    i) Drainage easements across North Douglas Highway are unlikely to exist for this parcel, though this has not been vetted by the General Engineering department. Neighbors downhill of the development location have historically been concerned about storm drainage. The developer will need to obtain easements to increase flow into any existing uneased drainages across private property to the receiving water (Gastineau Channel).

    A drainage report with the submittal of the preliminary plat does not need to be engineered. At the time of construction plan submittals, a drainage plan must be submitted and must be signed and stamped by an Alaska-licensed engineer.

21. **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. The applicant will also be required to provide a water system study to determine losses in the line and elevation to which they may develop.

Fire Marshal

22. **Fire Items/Access** – Water pressure: the fire hydrant at bottom of driveway on North Douglas Hwy is at 74 psi static pressure (66psi @ 1275gpm). Applicant will need to install a booster pump in the main fire

line to be able to provide a minimum of 25 psi to the farthest proposed property line. This is an ADEC requirement, and it is the developer's responsibility to meet this requirement.

Other Applicable Agency Review

23. DOT&PF
24. USF&W – Eagle's Nests

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

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. Project Narrative
3. Prelim Plat Checklist

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. Major Subdivisions
    a. Preliminary Plat - $110 per Lot. (42 proposed Lots = $4,620)
    b. Final Plat - $70 per Lot.
    c. Plat amendments - $110 plus $25 per Lot.

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:

Code Section References:

1. 49.15.402___Major_subdivisions.
2. 49.25.300___Determining_uses.
3. 49.25.400___Minimum_dimensional_standards
4. 49.25.420 - Measuring Building Height
5. 49.35.140___Construction_plans.
6. 49.35.240___Improvement_standards.
7. 49.35.250___Access.
8. 49.40.200___Parking
9. 49.40.300___Traffic Impact ADT
10. 49.50.300___Minimum_vegetative_cover.
11. ARTICLE_II.___HILLSIDE_DEVELOPMENT
12. Chapter_49.85___FEES_FOR_LAND_USE_ACTIONS
13. PARKING_AND_LOADING

Applications:

1. DPA-Development-Permit_Application-2022 (2)
2. Subdivision-Application
3. Blank - Subdivision-Preliminary-Plat-Checklist to accompany application.
4. Subdivision-Preliminary-Plat-Checklist-Requirements

49.15.402 Major subdivisions.

(a) *[Permit required.]* A major subdivision permit is required for subdivisions resulting in 14 or more lots.

(b) *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.

(c) *Preliminary plat.* The commission shall be responsible for approval of the preliminary plat.

(1) Application for a preliminary plat 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.

(2) Public notice of the application shall be provided pursuant to CBJ 49.15.230.

(3) Reserved.

(4) The director shall prepare and submit a report to the commission noting any conditions of approval or plat notes recommended and addressing the following criteria:

(A) Whether the preliminary plat complies with CBJ 49.15.411;

(B) Whether the applicable subdivision development standards of this title are met, or can reasonably be met with conditions;

(C) Whether the proposed subdivision will provide building sites suitable for the zoning district;

(D) Whether the proposed street names are unique in the City and Borough or are continuations of existing streets and are otherwise acceptable;

(E) Whether the director of engineering and public works has reviewed the application and determined that:

(i) The subdivision can be constructed to conform to applicable drainage and water quality requirements;

(ii) The streets, pioneer paths, and pedestrian ways as proposed accommodate anticipated traffic, align, and, where appropriate, connect with streets and pedestrian ways serving adjacent properties;

(iii) Any proposed improvements conform to the requirements of this title and can feasibly be constructed in accordance with this title; and

(iv) Where public sewer is not required, the applicant has shown that soils are suitable for individual on-lot wastewater treatment and disposal or has shown the feasibility of alternative methods for wastewater treatment and disposal.

(5) 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.

(d) *Construction plans.* Upon approval of the preliminary plat, the applicant shall submit complete sets of construction plans for all required improvements to the department for review by the director of engineering and public works for compliance with CBJ 49.35.140.

(e) *Survey and monumentation.* Once the construction plans are approved, the applicant shall complete required surveying and monumentation in accordance with CBJ 49.15, article IV, division 6.

(f) *Final plat.* 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 standards set forth in CBJ 49.15.412.

(1) 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.

(2) 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.

(3) The commission may place conditions upon the granting of final plat commission as are necessary to preserve the public welfare. The commission shall approve the application for a final plat if the following criteria are met:

(A) The applicant has complied with any conditions or plat notes required in the notice of decision approving the preliminary plat;

(B) The applicant has constructed all required improvements or provided a financial guarantee in accordance with CBJ 49.55.010; and

(C) The final plat meets the standards set forth in CBJ 49.15.412.

(g) *Plat recording.*

(1) 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.

(2) The department shall file the original plat, at the applicant's expense, with the State Recorder's Office at Juneau.

(Serial No. 2015-03(c)(am), § 10, 8-31-2015 ; Serial No. 2020-06, § 2, 3-16-2020, eff. 4-16-2020)

49.25.300 Determining uses.

(a) (1) *Listed uses.* There is adopted the table of permissible uses, table 49.25.300. The uses permitted in a zoning area shall be determined through the table of permissible uses by locating the intersection of a horizontal, or use axis and a vertical, or zone axis. The conditions and procedures applicable to the use in the zone thus located shall be as indicated thereat by the digits "1," "2," or "3" as more fully set out in this section and by letters of the alphabet as more fully set out by footnotes in the table. The absence of a digit at the intersection of use and zone axes means that the identified use is not permitted in the identified zone.

(2) *Unlisted uses.* The permissibility of a use not listed shall be determined pursuant to section 49.20.320.

(3) *Uses listed more than once.* Where a use might be classified under more than one category, the more specific shall control. If equally specific, the more restrictive shall control.

(4) *Accessory uses.* Uses constituting an incidental or insubstantial part of a permissible use and commonly associated with the permissible use may be allowed as an accessory use.

(5) *Nonconforming uses.* Nonconforming uses, including nonconforming residential densities, are subject to chapter 49.30.

(b) (1) When used in conjunction with a particular use in the table of permissible uses, the number "1" indicates that the use requires department approval pursuant to chapter 49.15, article III, in conjunction with the issuance of a building permit. The use is allowed in the district, but limited conditions may be attached to the approval.

(2) The number "2" indicates the use requires an allowable use permit from the planning commission. Such uses are allowed in the district, but specified conditions may be attached to the allowable use permit by the commission. The permit procedure is outlined in chapter 49.15, article I.

(3) The number "3" indicates the use requires a conditional use permit from the commission. The use may or may not be allowed at a particular location, depending on a determination of its compatibility with surrounding or proposed land uses. The planning commission may attach any condition to ensure the compatibility of the proposed use. The conditional use permit procedure is outlined in chapter 49.15, article I.

(c) A combination of digits such as "1, 3" or "2, 3" indicates that the approval procedure for the identified use in the identified zone will vary depending on whether the project is a major or minor development.

(1) If the project is a minor development the first number of the combination shall indicate the applicable procedure.

(2) If the project is a major development the second number shall indicate the applicable procedure.

(3) Minor development means development which is classified by zoning district as follows:

(A) *Rural reserve district:* A residential development containing two or fewer dwelling units, two or fewer bedrooms leased on a daily or weekly basis, or a nonresidential building totaling less than 10,000 square feet or using less than one acre of land in total.

(B) *Single-family residential districts:* A residential development containing two or fewer dwelling units, two or fewer bedrooms leased on a daily or weekly basis, or a nonresidential building totaling less than 5,000 square feet or using less than 10,000 square feet of land in total.

(C) *Multifamily residential districts:* A residential development containing eight or fewer dwelling units, eight or fewer bedrooms leased on a daily or weekly basis, or a nonresidential building totaling less than 5,000 square feet or using less than 10,000 square feet of land in total.

(D) *Commercial and mixed use districts:* A residential development containing 12 or fewer dwelling units, 12 or fewer bedrooms leased on a daily or weekly basis, or a nonresidential building totaling less than 10,000 square feet or using less than one-half acre of land in total.

(E) *Industrial districts:* Non-residential buildings totaling 15,000 square feet or using less than one acre of land in total.

(4) Major development means all development activity that is not a minor development.

(5) Exceptions. Exceptions to the use of minor and major development classifications as a method of determining the applicable approval procedure shall be as noted in the table of permissible uses.

(Serial No. 87-49, § 2, 1987; Serial No. 89-01, § 2, 1989; Serial No. 89-14, § 2, 1989; Serial No. 89-16, § 2, 1989; Serial No. 89-20, § 2, 1989; Serial No. 89-28, § 2, 1989; Serial No. 89-29, § 2, 1989; Serial No. 89-30, § 2, 1989; Serial No. 89-31, § 2, 1989; Serial No. 90-21, § 2, 1990; Serial No. 90-52, § 3, 1990; Serial No. 90-54, §§ 2, 3, 1991; Serial No. 91-01, § 3, 1991; Serial No. 91-36, § 2, 1991; Serial No. 92-09, § 3, 1992; Serial No. 93-05, § 2, 1993; Serial No. 93-46, §§ 2—4(Exh. A) and (Exh. B), 1993; Serial No. 94-07, §§ 2, 3(Exh. A) and (Exh. B), 1994; Serial No. 94-40, § 2(Exh. A), 1994; Serial No. 95-09, §§ 2, 3(Exh. A) and (Exh. B), 1995; Serial No. 97-10, § 2(Exh. A), 1997; Serial No. 97-19, § 2(Exh. A), 1997; Serial No. 97-47, §§ 2, 3(Exh. A), 1997; Serial No. 98-09, § 4(Exh. A), 1998; Serial No. 98-39, §§ 2—4(Exh. A), 1998; Serial No. 98-40, § 2(Exh. A), 1999; Serial No. 99-22, § 7, 1999; Serial No. 2000-46, § 2(Exh. A), 11-20-2000; Serial No. 2001-12, § 2(Exh. A), 4-02-2001; Serial No. 2010-22, §§ 2, 3(Exh. A), 7-19-2010; Serial No. 2015-07(b)(am), § 2, 2-23-2015, eff. 3-26-2015 ; Serial No. 2015-03(c)(am), § 18, 8-31-2015 ; Serial No. 2019-37, § 2, 3-16-2020, eff. 4-16-2020)

TABLE OF PERMISSIBLE USES - CBJ 49.25.300

			Zones																
	Use Description		RR	D-1	D-3	D-5	D-10 SF	D-10	D-15	D-18	LC	GC	MU	MU2	MU3	NC	WC	WI	I
1.000	Residential																		
	1.100	Single-family dwellings																	
	1.110	Single-family detached, one dwelling per lot	1	1	1	1	1	1	1	1	1	1	1	1			1	1A	1A
	1.120	Single-family detached, two dwellings per lot	1	1	1														
	1.130	Single-family detached, accessory apartment[X]	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3			1, 3		
	1.140	Single-family detached, two dwellings per lot, accessory apartments[X]	1, 3	1, 3	1, 3														
1.200	Duplex		1	1	1	1		1	1	1	1	1	1	1			1		
1.300	Multifamily dwellings							1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	3		
1.500	Child and Day care homes																		
	1.510	Child; 12 or fewer children under the age of 12	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	1.520	Reserved																	
	1.530	Adult; 12 or fewer people, 12 years and older	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	1.540	Reserved																	
	1.550	Child care residence, 6 to 9 children under 18 years of age		3	3	3	3	3	3	3	3	3	3	3	3	3			
1.600	Miscellaneous, rooms for rent situations																		
	1.610	Rooming, boarding houses, bed and breakfasts, single room occupancies with shared facilities, transitional housing, and temporary residences.	3	3	3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1	1	1, 3	1, 3	3[N]		

		Owner or manager must live on site.																	
	1.620	Hotels, motels	3								1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	3^N	3^N	
	1.630	Single room occupancies with private facilities						1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3		
1.700	Home occupations		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1.800	Mobile homes																		
	1.810	Residential mobile homes on individual lots[E]	3	3	3														
	1.815	Caretakers mobile homes on individual lots[E]	3	3	3	3	3	3	3	3	3	3	3	3			3	3	3
	1.820	Mobile home parks[E]					3	3	3	3	3	3							
	1.830	Mobile home subdivision[E]				3	3	3	3	3	3	3							
	1.840	Recreational vehicle parks[F]	3^F	3^F	3^F														
1.900	Common wall development																		
	1.910	Two dwelling units				1	1	1	1	1									
	1.911	Accessory apartments[X]	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3		
	1.920	Three or more dwelling units					1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3			
	1.930	Two dwelling unit structures allowed under special density considerations, subsections 49.25.510(h)			3	3	3	3	3	3	3			3					
2.000	**Sales and Rental Goods, Merchandise or Equipment[G]**																		
2.100	With less than 5,000 square feet and less than 20 percent of the gross floor area of outside merchandising of goods																		
	2.110	Reserved																	
	2.120	Miscellaneous									1	1	1	1	1	1	3^N	3^N	3
	2.130	Marine merchandise and equipment	3^T								1, 3	1, 3	1, 3	1, 3	1	1	1, 3	3^N	3
2.200	Storage and display of goods with greater or equal to 5,000 square feet										1, 3	1, 3	1, 3	1, 3			3^N	3^N	3

	and/or 20 percent of the gross floor area of outside merchandising of goods																		
2.300	Marijuana retail store	3								3	3	3	3	3	3	3	3	3	
3.000	**Professional Office, Clerical, Research, Real Estate, Other Office Services[G]**																		
3.050	Offices of not more than 1,000 square feet		3	3	3	3	3	3	3	1	1	1	1	1	1	1^N			
3.100	Offices greater than 1,000 but not more than 2,500 square feet						3	3	3	1	1	1	1	1	1	3^N			
3.200	Reserved																		
3.300	Research, laboratory uses	3^T								1, 3	1, 3	1, 3	1, 3	1, 3		1^N, 3^N	1^N, 3^N	1, 3	
3.400	Offices greater than 2,500 square feet									1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1^N, 3^N		3^S	
3.500	Marijuana testing facility	3								3	3	3	3					3	
4.000	**Manufacturing, Processing, Creating, Repairing, Renovating, Painting, Cleaning, Assembling of Goods[G]**																		
4.050	Light manufacturing	3^T						3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1^N, 3^N	1^N, 3^N	1, 3	
4.070	Medium manufacturing	3^T									3	3	3			3^N	1^N, 3^N	1, 3	
4.100	Heavy manufacturing	3^T	3^Q														3^N	3	
4.150	Rock crusher	3^T	1^Q	1^Q													3^N	3	
4.200	Storage of explosives and ammunition	3															3^N	3	
4.210	Seafood processing	3^T														3	1, 3	1, 3	
4.220	Marijuana product manufacturing facility	3^{AC}									3	3						3	
5.000	**Educational, Cultural, Religious, Philanthropic, Social, Fraternal Uses**																		
5.100	Schools																		
	5.110 Elementary and secondary schools including associated grounds and other facilities		3	3	3	3	3	3	3	3	3	3	3	3	3				
	5.120 Trade, vocational schools, commercial schools	3^T								3	3	3	3	3		3^N	3^N	3	
	5.130 Colleges, universities	3^T	3	3	3	3	3	3	3	3	3	3	3	3	3	3^N	3^N	3	
5.200	Churches, synagogues, temples	3^T	3	3	3	3	3	3	3	1, 3	1, 3	1,3	1, 3	3	3	1^N, 3^N	3^N	1, 3	

5.300	Libraries, museums, art galleries		3[T]	3	3	3	3	3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	3[N]		
5.400	Social, fraternal clubs, lodges, union halls, yacht clubs		3T								1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1[N], 3[N]	3[N]	1, 3
6.000	**Recreation, Amusement, Entertainment**																		
6.100	Indoor activity conducted entirely within building or substantial structure																		
	6.110	Bowling alleys, billiard, pool halls									1, 3	1, 3	1, 3	1, 3	1, 3	1, 3			3
	6.120	Tennis, racquetball, squash courts, skating rinks, exercise facilities, swimming pools, archery ranges				3	3	3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3			3
	6.130	Theaters seating for 200 or fewer	3[T]						3	3	1	1	1	1	1, 3	1, 3	3[N]		3
	6.135	Theaters seating from 201 to 1,000									3	1	1	1	1, 3	1, 3	3[N]		3
	6.140	Coliseums, stadiums, and other facilities in the 6.100 classification seating more than 1,000 people										3	3	3			3[N]		
	6.150	Indoor shooting range	1, 3									3							3
6.200	Outdoor activity conducted outside enclosed buildings or structures																		
	6.210	Recreational facilities such as golf, country clubs, swimming, tennis courts not constructed pursuant to a permit authorizing the construction of a school	3	3	3	3	3	3	3	3	3	1, 3			1, 3	1, 3	3[N]		3
	6.220	Miniature golf courses, skateboard parks, water slides, batting cages	3	3	3	3	3	3	3	3	3	1, 3	3	3	1, 3	1, 3	3[N]		3
	6.240	Automobile, motorcycle racing tracks; off-highway vehicle parks	3									3							3
	6.250	Reserved																	

	6.260	Open space	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	6.262	Parks with improved facilities, not approved in conjunction with a major subdivision																	
	6.264	Capacity for up to 20 people[W]	1[T]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3[N]	
	6.266	Capacity for more than 20 people[W]	3[T]	3	3	3	3	3	3	3	3	3	3	3	3	3	3[N]	3[N]	
	6.270	Aerial conveyances and appurtenant facilities	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3[N]	3[N]	3
	6.280	Shooting ranges	3																3
7.000	**Institutional Day or Residential Care, Health Care Facilities, Correctional Facilities**																		
7.100	Hospital										3	3	3	3					
7.150	Health care clinics, other medical treatment facilities providing out-patient care								3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3			
7.200	Assisted living			3	3	3	3	3	3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3			
7.300	Day care centers						3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3				
7.310	Child care centers	3	3	3	3	3	3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3				
7.500	Correctional facilities	3	3	3	3	3	3	3	3	3	3	3	3						
7.600	Sobering centers									3	3	3	3						
8.000	**Restaurants, Bars, Nightclubs**																		
	8.050	Small restaurants, less than 1,000 ft^2 without drive through service	3[T]					3	3	3	1	1	1	1	1	1	1[N]		3
8.100	Restaurants, bars without drive through service		3[T]								1, 3	1	1, 3	1, 3	1, 3	1, 3	1[N], 3[N]	3[N]	3
8.200	Restaurants, coffee stands with drive through service										1, 3	1		3			1[N], 3[N]	3[N]	3
8.300	Seasonal open air food service without drive through	3									1, 3	1	1, 3	1, 3	1, 3	1, 3	1[N], 3[N]	3[N]	
9.000	**Boat or Motor Vehicle, Sales and Service Operations**																		

	9.050	Motor vehicle, mobile home sale or rental									1, 3	1, 3	3	3					1, 3
9.100	Motor vehicle repair and maintenance, including body work											3							1
9.200	Automotive fuel station		3^T								3	1							1
9.300	Car wash										3	1							1
9.400	Boat sales or rental		3^T								3	1					1	1	1
9.450	Boat repairs and maintenance		3^T									3					1	1	1
9.500	Marine fuel, water sanitation		3^T														1, 3	1, 3	1, 3
9.600	Marine commercial facilities including fisheries support, commercial freight, passenger traffic		3														3	3	
10.000	**Storage, Parking, Moorage**																		
10.100	Automobile parking garages or parking lots not related to a principal use on the lot										3	1	1, 3	1, 3	1, 3	1, 3			1
10.200	Storage and handling of goods not related to sale or use of those goods on the same lot on which they are stored																		
	10.210	All storage within completely enclosed structures	1, 3	3							3	1	1^U, 3^U	1^U, 3U			1^N, 3^N	1N	1
	10.220	General storage inside or outside enclosed structures	1, 3	3								1, 3					1^N, 3^N	1N	1
	10.230	Snow storage basin																	
	10.232	Neighborhood, less than ½ acre	3	3	3^Z	3^Z	3^Z	3^Z	3^Z	3^Z	3^Z	1			3^Z	3^Z	3^Z	1	1
	10.235	Regional, ½ to 1 acre	3	3	3^Z						3^Z	3					3^Z	1	1
	10.237	Area wide, over 1 acre	3	3^Z	3^Z							3^Z						3	3
10.300	Parking of vehicles or storage of equipment outside enclosed structures where they are owned and used by the user of the lot and parking and storage is more than a minor and incidental use of the lot		1, 3	3								1, 3					1^N, 3^N	1^N, 3^N	1

10.400	Temporary contractor's storage connected with construction project off-site for a specified period of time		1, 3	3	3	3	3	3	3	3	3	1, 3	3	3	3	3	3	1N	1
10.500	Moorage																		
	10.510	Public, commercial	3	3	3						3	3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3
	10.520	Private	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3
10.600	Floating structures supporting seasonal, commercial recreation		3	3	3										3	3	3	3	
11.000	**Materials Salvage Yards, Waste Management**																		
11.100	Recycling operations																		
	11.110	Enclosed collection structures[0] of less than 80 square feet total and less than six feet in height	1[P]	1[P]	1[P]	1[P]	1[P]	1[P]	1[P]	1[P]	1	1	1[P]	1[P]	1[P]	1[P]	1	1	1
	11.120	Enclosed structures for recyclable materials collection	1[P], 3	1[P] ,3	1[P], 3	1[P], 3	1[P], 3	1[P], 3	1[P], 3	1[P], 3	1[P], 3[P]	1[P], 3[P]	3	3	3[P]	3[P]	1	1	1[P]
	11.130	Sorting, storage, preparation for shipment occurring outside an enclosed structure																1[N]	1
11.200	Reclamation landfill not associated with a specific use		1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3			3[N]	3[N]	1, 3
11.300	Sanitary landfill		3																3
12.000	**Services and Enterprises Related to Animals**																		
12.100	Veterinary clinic		3	3	3						3	1, 3	3	3	3	3	1[N], 3[N]	1[N], 3[N]	1
12.200	Kennel		3	3							3	3							1, 3
12.250	Day animal services, grooming, walking, day care		3	3	3	3	3				3	3	3	3	1, 3	1, 3			1, 3
12.300	Zoos, aquaria, or wild animal rehabilitation facilities with a visitor component		3	3							3	3		3			3[N]		3
12.310	Wild animal rehabilitation facilities without a visitor component		3	3	3	3					3	3					3[N]		3

12.400	Horseback riding stables, dog team yards	3	3							3	3							3
13.000	**Emergency Services**																		
13.100	Fire, police, ambulance	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3[N]	3[N]	1, 3
14.000	**Aquaculture, Agriculture, Silviculture, Mining, Quarrying Operations, Spring Water Bottling**																		
14.100	Aquaculture	3	3	3						3	3	3	3	1, 3	1, 3	1	1	3
14.150	Weirs, channels, and other fisheries enhancement	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3			1	1	1
14.200	Commercial agricultural operations																		
	14.210 Excluding farm animals	1, 3	1, 3	3	3	3	3	3	3	3	3			3	3			1, 3
	14.220 Including farm animals[M]	1, 3	3															1, 3
	14.230 Stabling of farm animals[M]	3	3	3	3					3	3							1, 3
	14.240 Marijuana cultivation (500 square feet or more under cultivation)	3								3	3							3
	14.245 Marijuana cultivation (fewer than 500 square feet under cultivation)	3	3[AB]							3	3							3
14.250	Personal use agriculture																		
	14.253 Hens, 6 maximum	1	1	1	1	1	1	3	3	1	1	3	3	1	1	1	1	1
14.300	Silviculture and timber harvesting[J]	3	3															3
14.400	Mining operations	2, 3[K]	3	3												3[N]	3[N]	2
14.500	Sand and gravel operations[I]	3	3	3						3	3					3[N]	3[N]	3
14.800	Spring water bottling	3	3			3	3	3	3	3	3				3			1, 3
15.000	**Miscellaneous Public and Semipublic Facilities**																		
15.100	Post office	3	3	3	3	3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	3[N]	3[N]	1, 3
15.200	Airport	3																1, 3

15.400	Military reserve, National Guard centers		3	3	3						3	3					3[N]	3[N]	3
15.500	Heliports, helipads		3									3					3[N]	3[N]	3
15.600	Transit facilities																		
	15.610	Transit center			3	3	3	3	3	3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	3		1, 3
	15.620	Transit station		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	15.630	Park and ride not associated with transit station	3	3	3	3	3	3	3	3	1	1	3	3		3			1
15.700	Public works facility		3	3	3	3					3	3							1, 3
16.000	**Dry Cleaner, Laundromat**																		
16.100	Drop off and pickup only, no onsite laundry or dry cleaning process									1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1[N], 3[N]	1[N], 3[N]	1, 3
16.200	Full service onsite laundry and/or dry cleaning										3	1, 3	3	3	1, 3	1, 3	3[N]	1[N], 3[N]	1, 3
17.000	**Utility Facilities**																		
17.100	Minor		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17.150	Intermediate		3	3	3	3	3	3	3	3	3	1, 3	3	3	3	3	1, 3	1	1
17.200	Major		3	3	3	3	3	3	3	3	3	3			3	3	3	3	3
17.300	Driveways and private roads																		
18.000	**Towers and Related Structures**																		
18.100[AA]	Towers and antennas 35 feet or less		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18.200[AA]	Towers and antennas 35 to 50 feet		1	3	3	3	3	3	3	3	1	1	1	1	3	3	1	1	1
18.300[AA]	Towers and antennas more than 50 feet in height		3	3	3	3	3	3	3	3	3	3	3	3			3	3	1
18.400	Amateur (ham) radio towers and antennas more than 35 feet in height[R]		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18.500	Wireless Communication Facilities					See CBJ 49.65, Wireless Communication Facilities													
19.000	**Open Air Markets, Nurseries, Greenhouses**																		
19.100	Open air markets (farm, craft, flea, and produce)		1, 3	1, 3							1, 3	1	1, 3	1, 3	1, 3	1, 3	1[N], 3[N]	1[N], 3[N]	1, 3
19.200	Nurseries, commercial greenhouses																		
	19.210	Retail sales	3	3	3	3	3	3	3	3	1, 3	1	1[V]	1[V]	1, 3	1, 3			1

	19.220	Nonretail sales	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1, 3	1	1[V]	1[V]					1
	19.230	Marijuana cultivation (500 square feet or more under cultivation)	3								3	3							3
	19.240	Marijuana cultivation (fewer than 500 square feet under cultivation)	3	3[AB]							3	3							3
20.000	**Cemetery, Crematorium, Mortuary**																		
20.100	Cemetery		1, 3	3	3	3	3	3	3	3	3	3							
20.200	Crematorium		3																1, 3
20.300	Funeral home		3	3	3	3	3	3			1, 3	1	3	3	1, 3	1, 3			
21.000	**Visitor-Oriented, Recreational Facilities**																		
21.100	Resort, lodge		3	3															
21.200	Campgrounds		1, 3	3															
21.300	Visitor, cultural facilities related to features of the site		3	3							3	3	3	3	3	3	3[N]		
22.000	**Temporary Structures Associated With Onsite Construction**																		
22.100	Temporary structures used in connection with construction		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Key:

1. Department approval requires the department of community development approval only.

1, 3. Department approval required if minor development, conditional use permit required if major development.

2. Allowable use permit requires planning commission approval.

3. Conditional use permit requires planning commission approval.

2, 3. Allowable use permit required if minor development, conditional use permit required if major development.

Notes:

A. A single-family residence is allowed as an owner or caretaker residence that is accessory to an existing permitted use in the industrial zone.

B. Reserved.

C. Reserved.

D. Reserved.

E. See special use regulations for mobile homes, chapter 49.65, article III.

F. See special use regulations for recreational vehicles, chapter 49.65, article IV. This use allowed by service area designation not zoning district.

G. All uses subject to additional performance standards, chapter 49.65, article VIII.

H. Reserved.

I. Reserved.

J. Applies to over 2 acres of harvest area.

K. See special use regulations, chapter 49.65, article I. Mining operations are a conditional use in the urban mining district and an allowable use in the rural mining district.

L. See special use regulations, chapter 49.65.200, article II.

M. Only applicable to the commercial or private stabling of more than three farm animals, or where the running or stabling area is closer than 100 feet to the nearest residence other than the owner for any number of farm animals.

N. Use must be water-dependent, water-related, or water-oriented.

O. Standards for collection structures: containers must be well maintained and allow no spillage of contents; a specific person or group must be responsible for maintenance of the structure and that person or group shall have a contact telephone number posted on the collection structure; collection structure must be situated so as to not affect traffic or parking; directional signs shall be limited to six square feet and identification signs shall be limited to 24 square feet; such signs will not be included in total sign area allowed for a complex; and the structure shall not exceed a height of six feet. Identification is to be in the following format: greater prominence, the City and Borough recycling logo and the recyclable material identification; lesser prominence, the sponsor name and the contact phone number.

P. Preexisting allowable or conditional use permit: If recycling activity is determined by the director to be an accessory use to a use previously permitted under either an allowable or a conditional use permit, the activity may be approved by the department. Other conditions may be required before recycling activity is permitted.

Q. Must be in conjunction with an approved state or municipal public road construction project, and must be discontinued at the completion of the project. Road construction by private parties for subdivision development is excluded except as provided in this title. Rock crushed on-site must be used on-site. Crushing shall be limited to 8:00 a.m.—5:00 p.m. unless the director authorizes otherwise.

R. Towers shall: be for amateur use only; meet the setback requirements of the zoning district; be unlit except as required by the Federal Aviation Administration. Towers shall be installed in conformance with a valid building permit, application for which shall include a copy of the applicant's amateur station license.

S. Limited to lots directly fronting on Glacier Highway West of Industrial Boulevard.

T. Must be associated with a unique site specific feature in order to function. Example: Glacier research station - Juneau Icefield location.

U. No storage permitted on the first floor of a building.

V. Primarily intended for rooftop locations in urban areas.

W. The capacity of a park shall be determined by the Director of the Community Development Department or designee in consultation with the Director of the Parks and Recreation Department.

X. Special requirements apply to accessory apartment applications. See CBJ § 49.25.510(k).

Z. Snow storage may be permitted for a maximum of five years. After five years a new application must be filed.

AA. Does not apply to wireless communication facilities.

AB. Use is prohibited in the urban service area but allowed outside the urban service area. An owner or manager must live on site.

AC. Use is prohibited within 1,000 feet of recognized neighborhood association established in accordance with CBJ chapter 11.35.

(Serial No. 2002-14, § 2, 4-1-5-2002; Serial No. 2002-29, § 2, 11-4-2002; Serial No. 2003-27am, § 5, 6-16-2003; Serial No. 2003-41, § 2, 9-22-2003; Serial No. 2003-41, § 2, 9-8-2003; Serial No. 2004-09, § 2, 4-12-2004; Serial No. 2006-07, § 2, 4-3-2006; Serial No. 2007-39, § 8, 6-25-2007; Serial No. 2009-22(b), § 2, 10-12-2009; Serial No. 2010-22, § 3(Exh. A), 7-19-2010; 2014-32(e)am, §§ 6—8, 9-29-2014, eff. 10-29-2014 ; Serial No. 2015-07(b)(am), §§ 2—4, 2-23-2015, eff. 3-26-2015 ; Serial No. 2015-34(am), § 2, 7-20-2015, eff. 8-20-2015 ; Serial No. 2015-03(c)(am), § 19, 8-31-2015 ; Serial No. 2015-32, §§ 2, 3, 8-10-2015 ; Serial No. 2015-38(b)(am), § 6, 5-2-2016, eff. 6-2-2016 ; Serial No. 2015-39(am), §§ 2—7, 11-9-2015 ; Ord. No. 2018-31, § 2, 6-4-2018, eff. 7-5-2018 ; Serial No. 2021-35(am), § 3(Exh. A), 2-7-2022, eff. 3-10-2022)

49.25.400 Minimum dimensional standards.

There is adopted the table of minimum dimensional standards, table 49.25.400. Minimum dimensional standards for all zoning districts shall be according to the table of minimum dimensional standards, subject to the limitations of the following sections and as otherwise specifically noted in the special area or use sections, chapters 49.65 and 49.70.

(Serial No. 87-49, § 2, 1987; Serial No. 89-32, § 2, 1989; Serial No. 98-09, § 5(Exh. B), 1998; Serial No. 98-20, § 2(Exh. A), 1998; Serial No. 2004-13, § 2, 9-27-2004; Serial No. 2006-13, § 2, 5-15-2006; Serial No. 2007-13, § 2, 4-2-2007; Serial No. 2012-24, § 3, 5-14-2012, eff. 6-14-2012 ; Serial No. 2021-28 , § 4, 8-23-2021, eff. 9-22-2021)

TABLE 49.25.400

TABLE OF DIMENSIONAL STANDARDS

Zoning Regulations	RR	D-1	D-3	D-5	D-10 SF	D-10	D-15	D-18	MU	MU2	MU3	NC	LC	GC	WC	WI	I
Minimum Lot Size[1]																	
Permissible Uses	36,000	36,000	12,000	7,000	3,600[10]	6,000	5,000	5,000	4,000	4,000	3,000	3,000	2,000	2,000	2,000	2,000	2,000
Bungalow[9]		18,000	6,000	3,500	2,500	3,000	3,000	2,500									
Duplex	54,000	54,000	18,000	10,500													
Common Wall Dwelling				7,000	3,600[10]	5,000	3,500	2,500		2,500							
Single-family detached, two dwellings per lot	72,000	72,000	24,000														
Minimum lot width	150′	150′	100′	70′	40′	50′	50′	50′	50′	50′	40'	40'	20′	20′	20′	20′	20′
Bungalow[9]		75′	50′	35′	25′	25′	25′	25′									
Common wall dwelling				60′	40′	40′	30′	20′		20′							
Maximum lot coverage																	
Permissible uses	10%	10%	35%	50%	50%	50%	50%	50%	None	80%	75%	None	None	None	None	None	None
Conditional uses	20%	20%	35%	50%	50%	50%	50%	50%	None	80%			None	None	None	None	None

Maximum height permissible uses	45′	35′	35′	35′	35′	35′	35′	35′	None	45′[4]	35'	35'	45′	55′	35′[4]	45′[4]	None
Accessory	45′	25′	25′	25′	25′	25′	25′	25′	None	35′	25'	25'	35′	45′	35′[4]	45′[4]	None
Bungalow[9]		25′	25′	25′	25′	25′	25′	25′									
Minimum front yard setback[3]	25′	25′	25′	20′	20′[10]	20′	20′	20′	0′	5′5,8	0'	0'	25′	10′	10′	10′	10′
Maximum front yard setback											20′	15′					
Minimum street side yard setback	17′	17′	17′	13′	10′	13′	13′	13′	0′	5′	0'	0'	17′	10′	10′	10′	10′
Maximum street side yard setback											15′	10′					
Minimum rear yard setback[3]	25′[2]	25′	25′	20′	10′	20′	15′	10′	0′	5′	5′	0'11	10′	10′	10′	10′	10′
Minimum side yard setback[3]	15′[2]	15′	10′	5′	3′	5′	5′	5′	0′	5′	0'	0'11	10′	10′	10′	10′	0′
Common wall dwelling				10′[6]	3′	5′[7]	5′[7]	5′[7]		5′[7]							

Notes:

1. Minimum lot size is existing lot or area shown on chart in square feet.
2. Sixty feet between nonresidential and designated or actual residential site; 80 feet between industrial, extractive and other uses.
3. Where one district abuts another the greater of the two setbacks is required for both uses on the common property line.
4. (Height Bonus) Reserved.

5. (Pedestrian Amenities Bonus) Reserved.

6. 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 ten-foot setback for the remaining side yards of the lot.

7. 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.

8. On corner lots, buildings shall be set back 15 feet from a street intersection. The area in which buildings shall be prohibited shall be determined by extending the edge of the traveled ways to a point of intersection, then measuring back 15 feet, then connecting the points.

9. Special restrictions apply to construction on bungalow lots. See special use provisions 49.65.600.

10. For lots adjacent to an alley, the following reductions to the dimensional standards apply:

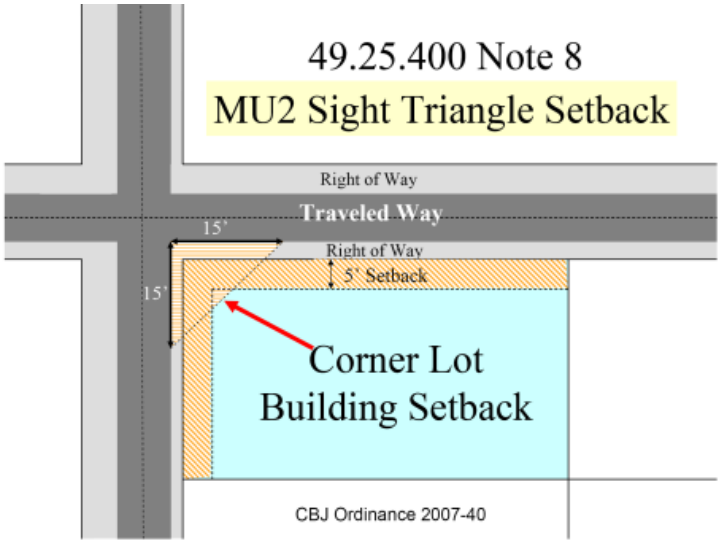
    (a) Minimal lot area includes 50% of adjacent alley (see graphic).

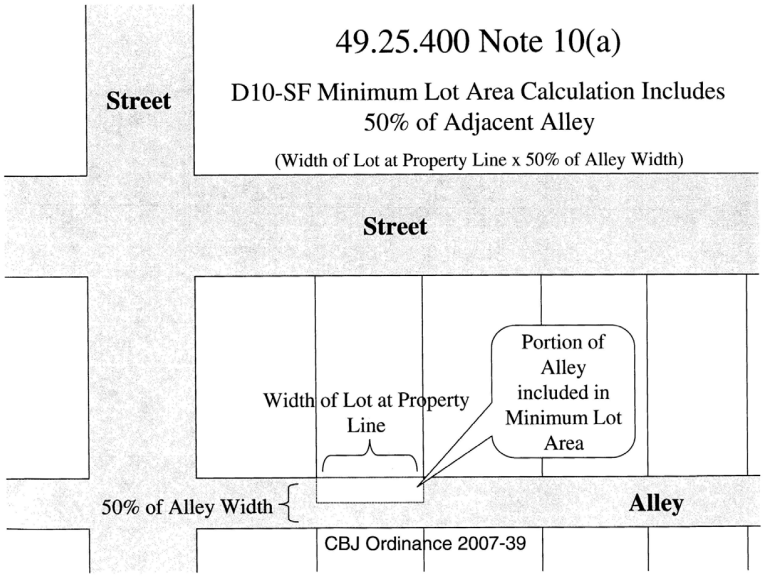
    (b) Reserved.

    (c) Minimum front yard setback of ten feet.

11. Additional setbacks apply when lot abuts a multi-family or single-family residential zoning district.

(Serial No. 2008-04, § 2, 2-25-2008, eff. 3-27-2008; Serial No. 2012-24, § 3, 5-14-2012, eff. 6-14-2012 ; Serial No. 2021-28 , § 4, 8-23-2021, eff. 9-22-2021; Serial No. 2021-35(am), § 4(Exh. B), 2-7-2022, eff. 3-10-2022)





(Serial No. 2007-39, § 9, 6-25-2007; Serial No. 2007-40, § 2, 6-25-2007)

Measuring or Calculating Building Height: CBJ 49.25.420

(a) The height of a building is the vertical distance above a reference datum measured to the highest point of the coping of a flat roof or to the deck line of a mansard roof or to the average height of the highest gable of a pitched or hipped roof. Roofs with slopes greater than 75 percent shall be regarded as walls. The height of a stepped or terraced building is the height of the highest segment thereof.

(b) The reference datum shall be whichever of the following yields the greater height of building:

(1) The highest point within a horizontal distance of five feet from the exterior wall of the building, when such point is not more than ten feet above the lowest point within said five-foot radius.

(2) An elevation ten feet higher than the lowest point, when the highest point described in subsection (b)(1) of this section is more than ten feet above the lowest point.

Note that the complete text of this section is not reproduced here—as always, refer to the full text of the current edition of the Code!

The graphic below is taken from the 1997 UBC Code Applications Manual. It is not adopted as part of CBJ Code, but it does show graphically what the adopted text says:

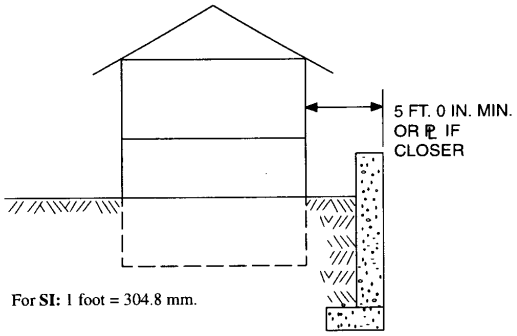


FIGURE 2-1

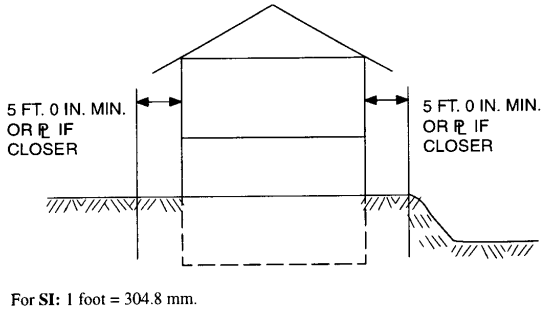


FIGURE 2-2

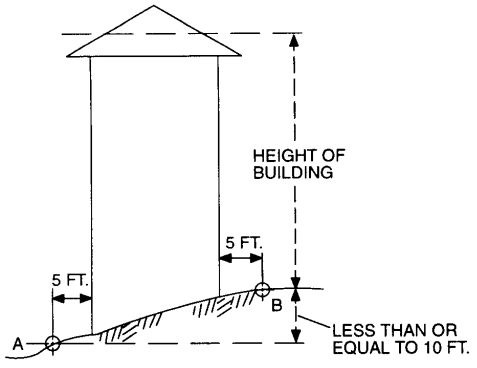


FIGURE 2-3

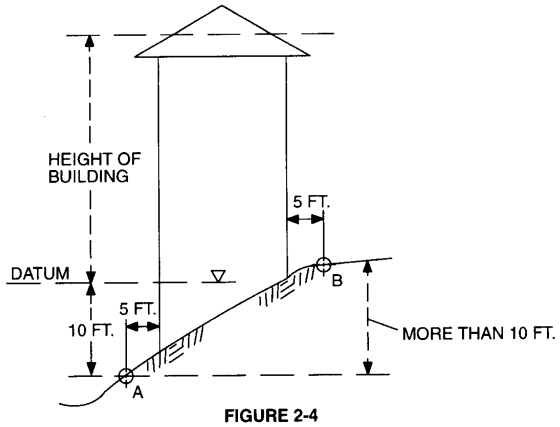


FIGURE 2-4

For SI: 1 foot = 304.8 mm.

DETERMINATION OF BUILDING HEIGHT IN FEET

49.35.140 Construction plans.

(a) *Generally.* The developer must submit construction plans for all proposed public improvements and associated private improvements and utilities within and outside the proposed development's boundary.

(b) *Construction plan submittal.*

(1) *Plan sets.* Prior to submittal of the final plat, and before the start of any construction, the developer must furnish to the City and Borough Permit Center complete sets of construction plans, profiles, details, and special construction provisions for all existing and proposed improvements. The director of engineering and public works shall determine the number of plan sets to be submitted. Plan sets will be forwarded to the appropriate City and Borough departments and agencies.

(2) *Engineer's stamp.* Construction plans must be stamped by the professional engineer licensed in the State of Alaska who is responsible for the improvement designs. Multiple engineer stamps are required for plans with multiple discipline designs, e.g., civil, electrical, structural engineering.

(c) *Construction plan—Details.*

(1) *Size.* All construction plans shall be submitted on 22- by 34-inch sheets. The director of engineering and public works may approve alternative sheet sizes.

(2) *Information.* The drawings must contain the following information:

(A) Name of subdivision.

(B) Type of work.

(C) Date.

(D) Name of engineer preparing the drawings and the engineer's stamp.

(E) Space for approval signature by the director of engineering and public works.

(F) A north arrow and scale.

(3) *Scale.* Horizontal scale must be one inch equals 50 feet or greater. Vertical scale must be one inch equals five feet or less with a minimum scale of one inch equals ten feet. The director of engineering and public works may approve alternative scales.

(4) *Benchmarks.* The locations, elevations and description of datum of permanent benchmarks must be shown.

(5) *Street profiles.* Profiles of streets shall indicate finished and existing grades for centerline of the street and shall extend a minimum of 200 feet beyond the limits of the proposed project or, if intersecting an existing street, extend to the far side of the existing street.

(6) *[Details to be included.]* Plans and profiles, where applicable, shall include location, elevation, size, materials, and all other details of the proposed improvements.

(7) *[Complete data.]* Complete survey data must be shown for all horizontal and vertical curves.

(8) *[Location of utilities.]* Construction plans shall include the location of all existing and proposed utilities.

(d) *As-built drawings.* The developer, upon completion of required improvements, must submit a reproducible and digital format copy of as-built plans unless otherwise required by the director of engineering and public works.

(Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 23, 8-31-2015)

49.35.240 Improvement standards.

(a) *Right-of-way widths.* The minimum right-of-way width of proposed streets is as follows:

(1) Arterials: 100 feet; minor, 80 feet.

(2) Collectors: 60 feet.

(3) Streets other than arterials and collectors: 60 feet.

(4) Cul-de-sacs: temporary or permanent turnaround: a diameter of 120 feet.

(5) Alleys: 20 feet.

(6) Stairways and other non-motorized access routes: 15 feet.

(7) Half streets. Whenever there exists a dedicated or platted half street or alley adjacent to the tract of land to be developed, the other half of the street or alley must be platted, dedicated, and the entire street or alley constructed to current improvement standards.

(8) Substandard width. Any previously platted right-of-way with less than the minimum standards identified for the traffic generated shall be improved to meet the minimum requirements established by this title.

(b) *Right-of-way minimum width reductions.* The director may reduce minimum right-of-way width requirements:

(1) For a collector, the right-of-way width may be reduced by up to ten feet.

(2) For streets with less than 500 average daily trips, or a privately maintained access road in a right-of-way, the width may be reduced by up to 25 feet.

(3) Where the dedicated right-of-way abuts and runs parallel to an exterior property line, will serve as a half-street, and will be developed as a low volume street or a driveway in a right-of-way, the width may be reduced by up to 30 feet.

(4) Alleys and stairway right-of-ways may be reduced by up to five feet.

(5) The director shall make written findings supporting right-of-way minimum width reductions granted under this section. The director's findings shall state that:

(A) The applicant has provided room for electric utility features and demonstrates that if the road is upgraded in the future to include additional sidewalks that there is sufficient right-of-way for construction of the sidewalks without need for retaining walls over two feet in height.

(B) There is sufficient right-of-way or easements to allow for drainage improvements required by construction of the sidewalks.

(C) That any driveways shall be constructed to accommodate the elevations of future sidewalks.

(D) No additional right-of-way width will be required in order to provide for sufficient access to abutting lands.

(E) There is sufficient room for snow storage.

(c) *Sight distance.* Sight distances for intersection, passing and stopping must be in accordance with the specifications set forth in "A Policy on Geometric Design of Highways and Streets".

(d) *Street grades.* Street grades are as follows:

(1) *Maximum.* Grades on arterial streets must not exceed six percent. Grades on other streets must not exceed 12 percent.

(2) *Minimum.* The minimum grade for all streets is one-half percent.

(3) *Cross slope.* The minimum cross slope on all streets is three percent.

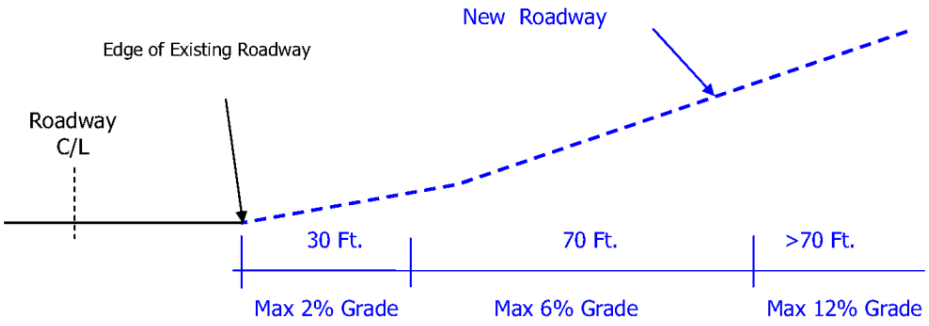
(4) *Exception.* Grades for all streets in hillside areas may be increased under certain circumstances according to chapter 49.70, article II, hillside development.

(e) *Intersections.*

(1) *Corner sight distance.* Corner sight distance must be in accordance with CBJ 49.35.240, however, in no case shall the sight distance be less than 200 feet.

(2) *Intersection angle.* Intersections of right-of-way lines must not be less than 60 degrees. The intersection of the centerline of the constructed roadway must not be less than 80 degrees.

(3) *Grade.* The grade for the approach leg of a new roadway at an intersection must not exceed two percent for the first 30 feet, measured from the edge of the existing roadway. The grade for the next 70 feet of the new roadway must not exceed six percent (See Figure 1).

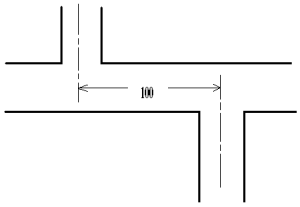


Maximum Grades at the Intersection of a New Roadway

Figure 1

(4) *Adjustment to grade.* In certain circumstances, the director of engineering and public works may require the centerline grade to be adjusted to ensure the grades along the edge of the intersecting street do not exceed the maximum grades listed above.

(5) *Alignment.* A proposed street that will intersect with an existing cross street shall, whenever practicable, align with an existing street intersection on the opposite side of the cross street. Street jogs that have center line offsets of less than 100 feet, shall not be permitted (See Figure 2).



Street jogs shall be no less than 100' apart, measured from the center of the street.

Figure 2

(f) *Curves.*

(1) *Design.* Curves shall be designed in accordance with "A Policy on Geometric Design of Highways and Streets."

(2) *Vertical curve.* The minimum length of vertical curves is 200 feet unless otherwise approved by the director of engineering and public works.

(g) *Cul-de-sacs.*

(1) *Length.* Streets designed to have one end permanently closed shall be no more than 600 feet and not less than 150 feet in length measured from the center of the intersection to the radius point of the turnaround. The director for minor subdivisions, and the commission for major subdivisions, may authorize a longer or shorter cul-de-sac if it is found that the unique characteristics of the site warrant modification to the length.

(2) *Temporary cul-de-sacs.* Temporary cul-de-sacs will be allowed where a street can practically be extended to provide for connecting streets into an adjoining undeveloped land, is located in a right-of-way or in an easement for public access, and if the following are met:

(A) The temporary portions of the cul-de-sac shall be easements on the plat rather than as dedicated right-of-way. Such easements shall allow for public access and maintenance as if it were dedicated right-of-way until such time the easements are vacated. The easements shall not contribute towards lot area.

(B) All of the cul-de-sac must be constructed to permanent street construction standards except as noted in (G) below.

(C) The CBJ will record a release of the easements for the temporary portions of the cul-de-sac at the state recorder's office at Juneau at the time the cul-de-sac is removed and the street improvements have been extended.

(D) Easement lines for the temporary cul-de-sac will be considered front property lines for determining building setbacks.

(E) All improvements, including utilities and private driveways, must be designed to accommodate the eventual extension of the street and reversion of the temporary cul-de-sac to adjoining

properties. The construction plans shall demonstrate those improvements connecting through a temporary cul-de-sac will still comply with CBJ standards after the temporary cul-de-sac is removed.

(F) Temporary cul-de-sacs must provide required access and minimum frontage on a publically maintained right-of-way to all lots using the cul-de-sac as access. If the cul-de-sac is not extended to the adjoining property, the maximum length of an unconstructed right-of-way between the temporary cul-de-sac and the adjoining property shall be the minimum lot width for the zoning district. If the right-of-way is located in more than one zoning district, the shortest minimum lot width shall be used. The right-of-way between the constructed temporary cul-de-sac and the adjoining property shall be subject to the stub street requirements of this Title (See Figure 3).

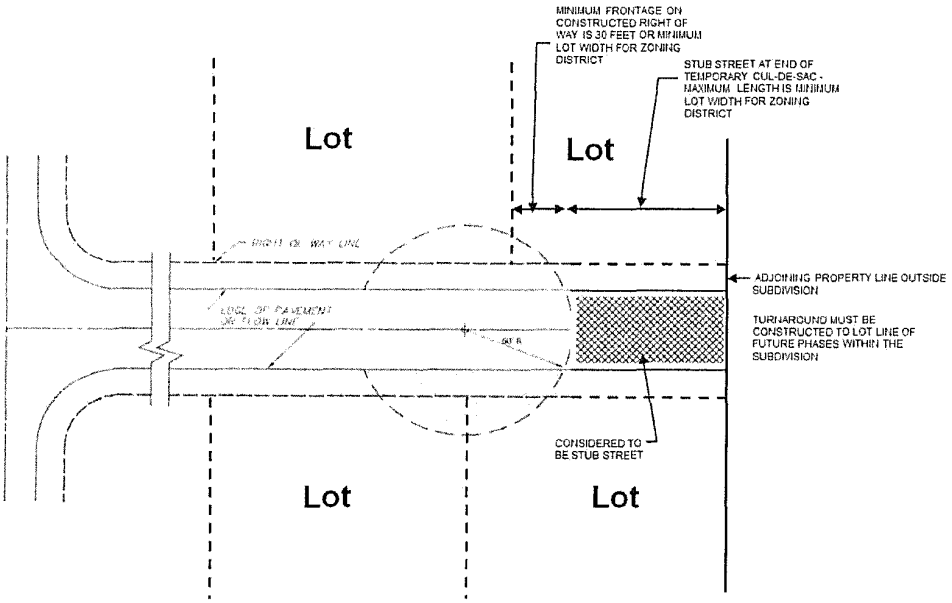


Figure 3

(G) The temporary cul-de-sac may be located on property within the subdivision intended for future subdivision phases in conjunction with a platted right-of-way. It may also be located outside the subdivision boundary entirely within an easement (See Figure 4). If the temporary cul-de-sac is constructed on property outside of the subdivision boundary, then curb, gutter, and sidewalks are not required for the temporary cul-de-sac.

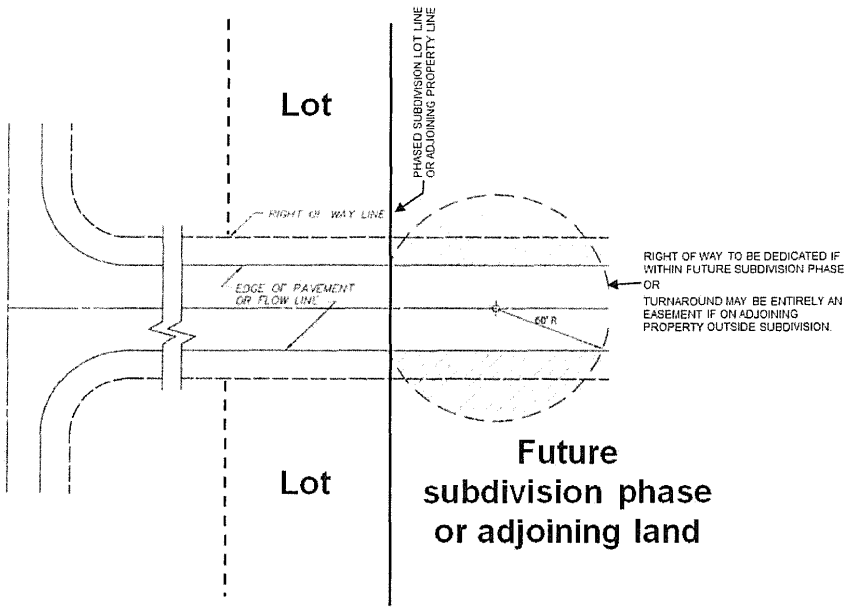


Figure 4

(H) The plat shall include the following note "Temporary cul-de-sac easement shall be vacated upon extension of street unless the director determines all or a portion of the cul-de-sac may remain."

(I) When the developer of adjoining property is required to connect to the temporary cul-de-sac, the temporary portions of the cul-de-sac shall be removed. The director, after considering public safety, costs, and recommendations of the director of engineering and public works department and of the fire marshal, shall determine if the developer may leave all or part of the temporary portions of the cul-de-sac. If any temporary cul-de-sac portion is removed, then the resulting constructed right-of-way shall conform to CBJ standards.

(3) *Hammerhead turnarounds.* Hammerhead turnarounds may be built in lieu of a temporary cul-de-sac, upon approval by the director of engineering and public works.

(h) *Streets construction standards.*

(1) *Arterials.* The subdivider is not responsible for the construction of arterial streets, but may be required to dedicate the necessary right-of-way during the platting process.

(2) *Other streets.* Other than arterials, street shall comply with the following:

Table 49.35.240 Table of roadway construction standards

Avg. Daily Trips (ADT)	Adopted Traffic Impact Analysis Required	Sidewalks	Travel Way Width	Street Lights	Width	Paved Roadway Required	Publicly Maintained

≥ 500	Yes	Both sides	26 ft.	At all intersections	60 ft. Public ROW[ii]	Yes	Yes
212 to 499	Maybe	One side	24 ft.	At all intersections	60 ft. Public ROW[ii]	Yes	Yes
0 to 211	No	Not required	22 ft.	At intersection of subdivision streets and external street system	60 ft. Public ROW[ii]	Yes	Yes
0 to 211	No	Not required	20 ft.[i]	At intersection of subdivision streets and external street system	60 ft. Public ROW[ii]	No, if outside the urban service area	No
0 to 70	No	Not required	20 ft.[i]	No	50 ft. private easement	No[iii]	No

[i] Or as required by the Fire Code at CBJ 19.10.

[ii] ROW width may be reduced as prescribed at CBJ 49.35.240.

[iii] Except as provided by CBJ 49.35.262(b)(9).

(3) *Signs and markings.* The subdivider must install street name signs, traffic control signs, and traffic control pavement markings in accordance with approved plans and the requirements of the current issue of the Manual on Uniform Traffic Control Devices, including the current Alaska Traffic Manual Supplement, published by the Alaska Department of Transportation and Public Facilities.

(i) *Street waivers.* The director, after considering the recommendations of the director of the engineering and public works department and of the fire marshal, may waive the following and no other street improvement requirements:

(1) Right-of-way relocation. If a plat is submitted for the purpose of relocating a right-of-way, the director may waive all or some of the construction requirements under the following conditions:

(A) The proposed relocation will improve access to abutting or neighboring property not otherwise adequately served.

(B) The subdivider has provided sufficient engineering information to demonstrate to the director of engineering and public works the feasibility of constructing a public street at the location of the relocated right-of-way.

(C) The relocated right-of-way and the resulting subdivision layout will conform to all the other standards of this chapter.

(D) The improvements required in the new right-of-way will not be less than those in the existing right-of-way.

(E) No additional lots are being platted.

(2) *Stub streets.*

(A) The director for minor subdivisions and the commission for major subdivisions may waive the full construction of a roadway within a right-of-way that is required to provide access to a bordering property, and does not provide required access to any lot within the subdivision. A developer requesting a stub street waiver shall demonstrate in the construction plans that a street can reasonably be constructed to CBJ standards in the right-of-way. The commission or director may require provision of a roadbed, utility line extensions, or other appropriate improvements (See Figure 5).

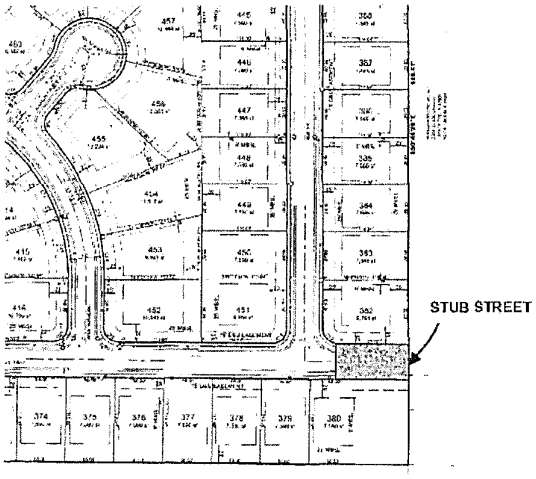


Figure 5

(B) Reserved.

(C) When the developer of adjoining property is required to connect to the stub street, then the developer of the adjoining property will be required to construct the stub street to City and Borough standards at the time.

(3) *Remote subdivisions accessible by navigable water.* The commission and the director may waive roadway improvements and other street construction requirements for remote subdivisions accessed solely by navigable water.

(4) *Roadway construction standards waivers.* Roadway construction standards identified in Table 49.35.240 may be waived in accordance with this subsection for any street reconstruction project, not including routine maintenance; or any new street construction project located in a right-of-way platted before 1987. Waivers shall be in writing.

(A) Roadway construction standards may be waived by the director if:

(i) The existing roadway does not comply with the roadway construction standards identified in Table 49.35.240;

(ii) There are unique circumstances that make compliance with the requirements of the table unreasonable;

(iii) The proposed project will not aggravate the intent of the requirements of this chapter; and

(iv) The proposed project complies with the American Association of State Highway and Transportation Officials' guidelines.

(B) Roadway construction standards may be waived by the commission if:

(i) The existing roadway does not comply with the roadway construction standards identified in Table 49.35.240;

(ii) There are unique circumstances that make compliance with the requirements of the table unreasonable;

(iii) The proposed project will not aggravate the intent of the requirements of this chapter; and

(iv) Unique circumstances make compliance with the American Association of State Highway and Transportation Officials' guidelines unreasonable, and the commission requires sufficient safeguards to protect public health, safety, and welfare under the circumstances.

(j) *Pioneer path standards.* The following standards shall apply to remote subdivisions accessed by pioneer paths.

(1) Interior access shall be provided solely by pioneer path in a right-of-way. The right-of-way width of a pioneer path within a remote subdivision shall be 60 feet.

(2) Grades for pioneer paths must not exceed 18 percent. The maximum cross slope grade must not exceed five percent.

(3) The width of a pioneer path shall not exceed 54 inches of tread, and must be located within a six-foot corridor.

(4) Pioneer paths shall be designed and constructed to prohibit vehicular traffic wider than 48 inches from using the path, which may include the use of boulders, bollards, or any other similar structure.

(k) *Responsibility for improvements.* Unless otherwise provided, it shall be the responsibility of the subdivider to pay the cost of all right-of-way and street improvements caused by any development, as determined by the director.

(Serial No. 87-49, § 2, 1987; Serial No. 88-30, § 2, 1988; Serial No. 2002-20, § 5, 8-5-2002; Serial No. 2006-15, § 8, 6-5-2006; Serial No. 2010-41, § 2, 1-10-2011; Serial No. 2015-03(c)(am), § 27, 8-31-2015 ; Serial No. 2016-26(b), 4-3-2017, eff. 5-4-2017 ; Serial No. 2018-08, § 2, 3-5-2018, eff. 4-5-2018 ; Serial No. 2019-08, § 2, 4-22-2019, eff. 5-23-2019)

49.35.250 Access.

(a) *Principal access to the subdivision.* Except as provided below, the department shall designate one right-of-way as principal access to the entire subdivision. Such access, 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.

(1) *Principal access to remote subdivisions.* The department shall designate the principal access to the remote subdivision. Such access may be by right-of-way.

(b) *Publicly maintained access within a subdivision.* Unless otherwise provided in this section or in 49.15.420(a)(1), all lots must satisfy the minimum frontage requirement and have direct and practical access to the right-of-way through the frontage. The minimum frontage requirement on a right-of-way is 30 feet or the minimum lot width for the zoning district or use as provided in CBJ 49.25.400. These requirements for frontage and access can be accomplished by:

(1) Dedication of a new right-of-way with construction of the street to public standards. This street must connect to an existing publicly maintained street;

(2) Use of an existing publicly maintained street;

(3) Upgrading the roadway within an existing right-of-way to public street standards. This existing right-of-way must be connected to another publically maintained street; or

(4) A combination of the above.

(c) *Privately maintained access within a subdivision.* Lots shall front and have direct access to a publically maintained street except as:

(1) *Privately maintained public access.* A subdivision may create new lots served by a privately maintained access within a public right-of-way not maintained by an agency of government as provided by CBJ 49.35, article II, division 3. All lots must have either a minimum of 30 feet of frontage on a right-of-way, or the minimum lot width for the zoning district or use as provided in CBJ 49.25.400.

(2) *Private shared access.* A lot in a subdivision is exempt from having the minimum frontage on a public right-of-way when a shared access is approved pursuant to CBJ 49.35, article II, division 2. All lots served by a shared access shall have a minimum of 30 feet of frontage on the shared access.

(d) *Remote subdivisions accessible by navigable waterbodies.* All lots in a remote subdivision solely accessible by navigable waterbodies must have a minimum of 30 feet of frontage on, and direct and practical access to, either the navigable water or a right-of-way. The right-of-way must have direct and practical access to the navigable water.

(e) *Access within remote subdivisions accessible by pioneer paths.* All lots must either have direct and practical access with a minimum of 30 feet of frontage on the right-of-way, or the minimum lot width for the zoning district or use as provided in CBJ 49.25.400.

(Serial No. 2016-26(b) , § 9, 4-3-2017, eff. 5-3-2017)

49.40.200 General applicability.

Developers must provide off-street parking spaces for automobiles in accordance with the requirements set forth in this chapter at the time any structure is erected, expanded, or when there is a change in the principal use.

(a) *Special parking areas.*

(1) *Town center parking area.* The town center parking area, as depicted in Ordinance 2022-04(b) is adopted. The town center parking area consists of the lots within the area bound by West Tenth Street, Egan Drive, West Twelfth Street, D Street, West Ninth Street, C Street and its projection, West Eight Street and its projection, the rear lot lines of property between 370 through Distin Avenue, Sixth Street and its projection, Harris Street, projection of Third Street, projection of East Street, projection of Second Street, projection of Harris Street, the rear lot lines of property between 143 and 400 Gastineau Avenue, the rear lot lines of property between 511 and 889 South Franklin Street, and Gastineau Channel.

(2) *No parking required area.* The no parking required area, as depicted in Ordinance 2022-04(b) is adopted. The lots within the area bound by Gastineau Avenue, Fourth Street, Seward Street, Gastineau Channel, 490 South Franklin Street, and Layton Way are excluded from the parking requirements of this chapter. No additional parking is required for development in this area.

(b) *Conforming parking.* The requirements, alternatives and reductions of this chapter can be combined to meet parking requirements of a development.

(c) *Developer responsibility.* Developer must submit documentation to demonstrate that applicable parking code requirements have been met, in conformance with this chapter.

(d) *Owner/occupant responsibility.* The provision and maintenance of off-street parking and loading spaces required in this chapter is a continuing obligation and joint responsibility of the owner and occupants.

(e) *Determination.* The determination of whether the parking requirements of this chapter are satisfied, with or without conditions, and deemed necessary for consistency with this title, must be made by:

(1) The director for minor development;

(2) The commission for major development; or

(3) The commission if the development application relates to a series of applications for minor developments that, taken together, constitute major development, as determined by the director.

(f) *Expansion.* In cases of expansion of a structure on or after the effective date of Ordinance 2022-04(b) :

(1) The number of additional off-street parking spaces required must be based on the gross floor area added.

(2) No additional parking spaces are required if the additional spaces would amount to less than ten percent of the total required for the development and amount to two or less spaces.

(3) For phased expansion, the required off-street parking spaces is the amount required for the completed development, as determined by the director.

(g) *Change in use.* In cases of a change in use on or after the effective date of Ordinance 2022-04(b) , the number of spaces required will be based on this chapter.

(h) *Replacement and reconstruction of certain nonconforming structures.* Off-street parking requirements for the replacement and reconstruction of certain nonconforming structures in residential districts must be governed by chapter 49.30.

(i) *Mixed occupancy.* Mixed occupancy is when two or more of the parking uses in section 49.40.210 share the same lot(s). For mixed occupancy, the total requirement for off-street parking facilities is the sum of the requirements for the uses computed separately.

(j) *Uses not specified.* The requirements for off-street parking in section 49.20.320 are based on the requirements for the most comparable use specified, as determined by the director for minor development or by the commission for major development.

(k) *Location.* Off-street parking facilities must be located as provided in this chapter. If a distance is specified, such distance is the walking distance measured from the building being served to the parking provision. Off-street parking facilities for:

(1) Single-family dwellings and duplexes must be on the same lot as the building served;

(2) Multifamily dwellings may not be more than 100 feet distant, unless compliant with section 49.40.215; and

(3) Uses other than those specified above, may be not more than 500 feet distant, unless compliant with section 49.40.215.

(l) *Off-street parking requirements for a lot accessible by air or water only.* Off-street parking requirements do not apply to a lot if it is accessible only by air or water. If the director determines that public access by automobile to the lot later becomes available, the owner of the property must be given notice and within one year must provide the required off-street parking.

(Serial No. 2022-04(b) , § 2, 4-25-2022, eff. 5-26-2022)

49.40.300 Applicability.

(a) A traffic impact analysis (TIA) shall be required as follows:

(1) A development projected to generate 500 or more average daily trips (ADT) shall be required to have a traffic impact analysis.

(2) A development projected to generate fewer than 250 ADT shall not be required to have a traffic impact analysis.

(3) A development projected to generate more than 250 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.

(4) The applicant shall provide the traffic projections for the project, and the department will review and approve the final figures.

(5) A TIA must be prepared by a licensed engineer, or a transportation planner, with traffic analysis experience, approved by the director.

(b) The department shall require the applicant to contact the Alaska Department of Transportation and Public Facilities to determine whether a state permit or TIA will be required.

(Serial No. 2008-01, § 2, 1-28-08)

49.50.300 Minimum vegetative cover.

A minimum percent by area of each development site shall be maintained with live vegetative cover according to the following table. In the event of a conflict between district and area standards, the greater shall apply.

Zoning District	Percentage of Lot in Vegetation
D-1, D-3, and D-5, residential districts	20
D-10 SF residential districts	15
D-10, D-15, and D-18 multifamily residential districts	30
MU2, mixed use district	5
MU3, mixed use district	10
NC, neighborhood commercial district	25
LC, light commercial district	15
GC, general commercial district	10
WC, waterfront commercial district	10
WI, waterfront industrial district	5
I, industrial district	5
Convenience store, outside a commercial district	20

(Serial No. 87-49, § 2, 1987; Serial No. 96-20, § 2, 1996; Serial No. 98-09, § 7, 1998; Serial No. 98-20, § 3, 1998; Serial No. 2007-39, § 12, 6-25-2007; Serial No. 2013-03, § 2, 1-28-2013, eff. 2-28-2013 ; Serial No. 2021-35(am), § 7, 2-7-2022, eff. 3-10-2022)

ARTICLE II. HILLSIDE DEVELOPMENT

49.70.200 Purposes.

The purposes of this article are to:

(1) Ensure that hillside development provides erosion and drainage control to protect adjoining parcels;

(2) Protect waterways from sedimentation and pollution;

(3) Minimize injury or damage to people or property from natural or artificial hazards in hillside development; and

(4) Minimize any adverse aesthetic impact of hillside development.

(Serial No. 87-49, § 2, 1987)

49.70.210 Applicability and scope.

(a) This article applies to all development on hillsides in the City and Borough that involves the following:

(1) Removal of vegetative cover;

(2) Excavation of any slope in excess of 18 percent;

(3) Creation of a new slope in excess of 18 percent for a vertical distance of at least five feet; or

(4) Any hazard area identified on the landslide and avalanche area maps dated September 9, 1987, consisting of sheets 1—8, as the same may be amended from time to time by the assembly by ordinance or any other areas determined to be susceptible to geophysical hazards.

(b) All hillside development endorsement applications shall be reviewed by the planning commission, except the following may be reviewed by the director:

(1) An excavation below finished grade for basements and footings of a building, a retaining wall or other structure authorized by a building permit, provided that this shall not exempt any fill made with the material from such excavation nor any excavation having an unsupported height greater than two feet after the completion of the associated structure.

(2) Graves.

(3) Mining, quarrying, excavating, processing, or stockpiling of rock, sand, gravel, aggregate or clay provided such operations do not affect the location or peak volume of runoff, the location or amount of standing water, or the lateral support for, the stresses in, or the pressure upon, any adjacent or contiguous property.

(4) Exploratory excavations less than 200 square feet in area and under the direction of a civil engineer with knowledge and experience in the application of geology in the design of civil work.

(5) An excavation which:

(A) Is less than two feet in depth and covers less than 200 square feet; or

(B) Does not create a cut slope greater than five feet in height or steeper than one and one-half horizontal to one vertical.

(6) A fill less than one foot in depth and intended to support structures which fill is placed on natural terrain with a slope flatter than five horizontal to one vertical, which does not exceed 20 cubic yards on any one lot and which does not obstruct a drainage course.

(7) A fill less than three feet in depth and not intended to support structures which fill is placed on natural terrain on a slope flatter than five horizontal to one vertical, which does not exceed 50 cubic yards on any one lot and which does not obstruct a drainage course.

(8) Minor development.

(Serial No. 87-49, § 2, 1987; Serial No. 2006-15, § 22, 6-5-2006; Serial No. 2015-03(c)(am), § 51, 8-31-2015)

49.70.220 Hillside development endorsement application.

(a) All development on hillsides shall be pursuant to a hillside development endorsement.

(b) The developer shall apply for and obtain a hillside development endorsement prior to any site work other than land and engineering surveys and soils exploration.

(Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 52, 8-31-2015)

49.70.230 Fees.

The City and Borough shall charge the developer the gross hourly rate for professional review of the application and for inspection. The developer shall deposit one percent of the value of the site development, excluding that portion of the site determined by the engineer to be subject to a public transmission facility permit, in a specially designated reserve account, against which the City and Borough may bill its documented time and expenses. The developer shall promptly replenish this amount when requested, and no endorsement may be issued if there is any deficiency in the developer's reserve account. All unexpended funds in the reserve account shall be returned to the developer upon final approval of development or when the engineer is satisfied that the work under the hillside development endorsement has been completed and the requirements of this chapter have been met.

(Serial No. 87-49, § 2, 1987)

49.70.240 Application.

The application shall be accompanied by the following materials, which shall be signed and stamped by a civil engineer, architect, geologist or land surveyor licensed in the State of Alaska:

(1) A vicinity map, at a clear and legible scale, showing roads, place and street names and natural waterbodies.

(2) Site maps, showing the present condition of the site at a clear and legible scale compatible with the size of the development and including:

(A) Two-foot contours for flat terrain or five-foot contours for steep terrain and extending 50 feet in all directions beyond the development site; 12 percent line, 30 percent line;

(B) Water bodies, tidelands and drainage ways from the development site to accepting natural waterbody;

(C) Lot boundaries and easements for the site and adjacent lots; and

(D) Existing improvements on the site and adjacent lots, including structures, roads, driveways and utility lines.

(3) The application shall include a finished proposed site plan at a clear and legible scale that includes the following information:

(A) Finished grade at two-foot contours for flat terrain or five-foot contours for steep terrain and extending 50 feet in all directions beyond the development site; 12 percent line, 30 percent line.

(B) Water bodies, tidelands and drainage ways, and temporary and permanent drainage systems from the development site to the accepting natural waterbody.

(C) Lot boundaries, easements and setback lines.

(D) The location of improvements including structures, roads, driveways, utility lines, culverts, walls and cribbing.

(E) Clearing limits of existing vegetative cover.

(F) A cross section of the development site.

(4) The application shall include detailed engineering drawings of roads, driveways, parking areas, structural improvements for foundations, off-site stormwater runoff systems; cross sections and road elevations.

(5) A description of the source and type of any off-site fill, and the site for depositing excess fill.

(6) A landscaping plan, including all trees to be retained in excavation areas, all plant species and locations; temporary slope protection measures; erosion and siltation control measures; seeding or sodding materials, a planting and maintenance program; and methods of stabilization and protection of bare slopes.

(7) An engineering geologic report, including a summary of the relevant surface and bedrock geology of the site, a discussion of active geologic processes with conclusions and recommendations regarding the effect of geologic factors on the proposed development; data regarding the nature, distribution and relevant parameters of existing soils, recommendations for grading procedures; design criteria for corrective measures as necessary, and recommendations covering the suitability of the site for the proposed development.

(8) A work schedule, by phase.

(9) Such other different or more detailed submissions as may be required.

(Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 54, 8-31-2015)

49.70.250 Standards for approval.

Hillside development shall meet the following minimum standards:

(1) *Roads.* The City and Borough road standards shall apply to hillside development, except that:

(A) *Modification of standards.* The engineer or planning commission may modify road standards as identified in subsections (1)(B) and (C) of this section, if:

(i) The developer's traffic analysis and circulation, land ownership, and development patterns indicate future use of the roadway at less than collector street levels;

(ii) The modification would enable the development to meet, or more closely approximate, the criteria set forth in section 49.70.260; and either

(iii) The proposed road or access in question would result in a permanent cul-de-sac; or

(iv) A secondary access to the proposed development exists or will be developed as a part of the project.

(B) *Road width.* The width of a section of residential roadway may be narrowed to 20 feet, with a single four-foot pedestrian way and underground storm drain system, if:

(i) The section is not more than 200 feet in length, and is separated from other such sections by at least 100 feet of standard roadway;

(ii) No entrances, intersections or parking are allowed in the section;

(iii) Guard rails, if any, are designed to permit the passage of plowed snow;

(iv) There is at least a 200-foot line of sight along the centerline of the section;

(v) The section enables the development to meet, or more closely approximate, the criteria set forth in section 49.70.260;

(vi) Grouped off-street parking spaces are provided at the entry to the section; and

(vii) Adequate provision is made for storage of snow.

(C) *Road grade.* The grade of a section of residential roadway may be increased to a maximum of 15 percent if:

(i) The section is not more than 200 feet in length and separated from other such sections by at least 100 feet of roadway;

(ii) No entrances or intersections are allowed in the section;

(iii) Through intersections at the end of the section have approaches at least 50 feet long measured from the edge of the traveled way of the crossroad and are at a grade of eight percent or less; intersections requiring a full stop have approaches no less than 20 feet long at a grade of two percent or less, or no less than 50 feet long at a grade between two and six percent;

(iv) Any guard rails are designed to permit the passage of plowed snow;

(v) All sight distances conform to standards of the American Association of State Highway and Transportation Officials; and

(vi) The section enables the development to meet, or more closely approximate, the criteria set forth in section 49.70.260.

(2) *Weather.* The engineer may prohibit a developer from earthmoving during periods of very wet soil conditions, in which case the permit shall be extended by a like period.

(3) *Sediment.* The developer shall not allow any increase in sediment to flow off-site during or after construction if such would be likely to cause an adverse impact on a down slope lot or waterbody.

(4) *Peak discharge.* The developer shall ensure that during and after construction of major development, the peak discharge of all streams and natural drainage ways at the down slope boundary shall be no greater than that occurring prior to excavation.

(Serial No. 87-49, § 2, 1987)

49.70.260 Criteria.

The commission or director shall consider the extent to which the development meets the following criteria:

(1) *Soil erosion.* Soil disturbance and soil erosion shall be minimized and the effects thereof mitigated.

(2) *Existing vegetation.* Depletion of existing vegetation shall be minimized.

(3) *Contours.* The developer shall recontour the finished grade to natural-appearing contours which are at or below 30 percent or the natural angle of repose for the soil type, whichever is lower, and which will hold vegetation.

(4) *Time of exposure and soil retention.* The developer shall minimize the period of time that soil is exposed and shall employ mats, silt blocks or other retention features to maximize soil retention.

(5) *Replanting.* The developer shall mat, where necessary, and plant all exposed soil in grass or other soil-retaining vegetation and shall maintain the vegetation for one full growing season after planting.

(6) *Drainage.* The developer shall minimize disturbance to the natural course of streams and drainage ways. Where disturbance is unavoidable, the developer shall provide a drainage system or structures which will minimize the possibility of sedimentation and soil erosion on-site and downstream and which will maintain or enhance the general stream characteristics, spawning quality, and other habitat features of the stream and its receiving waters. Where possible, development shall be designed so lot lines follow natural drainage ways.

(7) *Foundations.* The developer shall ensure that buildings will be constructed on geologically safe terrain.

(8) *Very steep slopes.* The developer shall minimize excavation on slopes over 30 percent.

(9) *Soil retention features.* The developer shall minimize the use of constructed retention features. Where used, their visual impact shall be minimized through the use of natural aggregate or wood, variation of facade, replanted terraces, and the like.

(10) *Wet weather periods.* The developer shall minimize exposure of soil during the periods of September 1—November 30 and March 1—May 1.

(Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 54, 8-31-2015)

49.70.270 Conditions on approval.

The commission or director may place conditions upon a hillside development endorsement as necessary or desirable to ensure that the spirit of this chapter will be implemented in the manner indicated in the application. Fulfillment of conditions shall be certified by the engineer. The conditions may consist of one or more of the following:

(1) *Development schedule.* The commission or director may place a reasonable time limit on or require phasing of construction activity associated with the development or any portion thereof, in order to minimize construction-related disruption to traffic and neighbors or to ensure that the development is not used or occupied prior to substantial completion of required improvements.

(2) *Dedications.* The commission or director may require conveyances of title or other legal or equitable interests to public entities, public utilities, a homeowner's association, or other common entities. The developer may be required to construct any public facilities, such as drainage retention areas, to City and Borough standards prior to dedication.

(3) *Construction guarantees.* The commission or director may require the posting of a bond or other surety or collateral providing for whole or partial releases, in order to ensure that all required improvements are constructed as specified in the approved plans.

(4) *Lot size.* If justified by site topography, the commission or director may require larger lot areas than prescribed by zoning requirements.

(Serial No. 87-49, § 2, 1987; Serial No. 2015-03(c)(am), § 55, 8-31-2015)

Chapter 49.85 FEES FOR LAND USE ACTIONS

49.85.100 Generally.

Processing fees are established for each development, platting and other land use action in accordance with the following schedule:

(1) Minor development.

(A) Reserved;

(B) Staff review, no charge if a building permit is required;

(C) Sign permit, $50.00 for the first two signs, and $20.00 for each additional sign.

(2) Minor subdivision or consolidation.

(A) Subdivision creating additional lots, $400.00 plus $25.00 for each resulting lot;

(B) Subdivision creating no additional lots, $110.00 plus $25.00 for each lot changed.

(3) Major development, conditional use permits or modifications, allowable use permits, and wetlands permits. The fees for these land use actions are based on classes of uses, and shall be paid upon application for permit issuance or modification as set forth in subsections (3)(A)—(E) of this section. The fee for an extension of a permit shall be $250.00 for any class of use.

(A) Class I uses, $350.00. Class I uses are:

(i) Mobile homes on single lots;

(ii) Agricultural uses of under 50,000 square feet;

(iii) Residential structures, four or fewer units;

(iv) Transient structures, 12 or fewer rooms for rent;

(v) Day care and child care homes;

(vi) Accessory or incidental recycling activities under section 49.25.300, category 11.120 uses;

(B) Class II uses, $500.00. Class II uses are:

(i) Commercial, mixed use or enclosed industrial uses with less than 10,000 square feet of building space and using less than one acre of land;

(ii) Agricultural uses of 50,000 or more square feet;

(iii) Residential structures, five to ten dwelling units;

(iv) Transient structures, 13 to 30 rooms for rent;

(v) Day care and child care centers;

(vi) Floating residences and floating structures under 2,500 square feet;

(vii) Churches, schools, and additions thereto;

(C) Class III uses, $750.00. Class III uses are:

(i) Commercial, mixed use or enclosed industrial uses with 10,000 to 20,000 square feet of building space or using one to three acres of land;

(ii) Residential structures, 11 to 30 dwelling units;

(iii) Transient structures, 31 to 90 rooms for rent;

(iv) Floating structures, 2,500 to 10,000 square feet;

(D) Class IV uses, $1,000.00. Class IV uses are:

(i) Commercial, mixed use or enclosed industrial uses with 20,001 to 40,000 square feet of building space or using more than three but less than six acres of land;

(ii) Residential structures, 31 to 60 dwelling units;

(iii) Transient structures, 91 to 180 rooms for rent;

(iv) Unenclosed industrial uses using less than three acres of land (e.g., batch plants, quarries, sand and gravel operations, junkyards, heliports, and outside storage);

(v) Floating structures over 10,000 square feet.

(E) Class V uses, $1,600.00. Class V uses are:

(i) Commercial, mixed use or enclosed industrial uses with more than 40,000 square feet of building space or using six or more acres of land;

(ii) Unenclosed industrial uses using three or more acres of land;

(iii) Residential structures, over 60 dwelling units;

(iv) Transient structures, over 180 rooms for rent;

(v) City and state projects with estimated project cost over $2,500,000.00.

(4) Major subdivisions, including mobile home subdivisions.

(A) Preliminary plat, $110.00 per lot;

(B) Final plat, $70.00 per lot;

(C) Reserved;

(D) Plat amendment, $110.00 plus $25.00 per lot.

(5) Street vacation, $500.00.

(6) Administration of developer's subdivision improvement guaranty.

(A) Performance bond, $50.00;

(B) Deposit in escrow, $140.00;

(C) Deed of trust, reconveyance, agreement or substitution of trust and reconveyance lots, $140.00 for first lot, plus $25.00 for each additional lot.

(7) Access driveways in rights-of-way, $400.00.

(8) Special use or area.

(A) Mining.

(i) Exploration approval, $200.00;

(ii) Small mine permit and amendment, $1,200.00;

(iii) Large mine permit and amendment, $3,600.00, plus any special fee established pursuant to section 49.65.130;

(iv) Technical revision $500.00;

(v) Ownership transfer requests $500.00;

(vi) Summary approval. The fees for a summary approval action shall be based on the classes of uses as established in 49.85.100(3).

(B) Mobile home parks.

(i) Preliminary review, $90.00 per lot or $250.00, whichever is greater;

(ii) Final review, $60.00 per lot or $250.00, whichever is greater.

(C) Recreational vehicle parks, conditional use permit, $400.00.

(D) Hillside development endorsement. Gross hourly rate for professional review and inspection, $60.00.

(E) Planned Unit Development (PUD) and Cottage Housing.

(i) Preliminary plan application approval, $400.00 plus $80.00 per residential unit;

(ii) Final plan approval, $300.00 plus $60.00 per residential unit.

(F) Development in landslide or avalanche hazard area conditional use, $400.00.

(G) Alternative residential subdivisions.

(i) Preliminary plan application review, $400.00 plus $80.00 per residential unit;

(ii) Final plan review, $300.00 plus $60.00 per residential unit.

(H) Floodplain development permit.

(i) Minor development, no building permit required, $45.00.

(ii) Major development, building permit required, $100.00.

(iii) Exception, $400.00.

(9) Zone changes and comprehensive plan amendments, $600.00.

(10) *Variances and alternative development permits.*

(A) Administrative variance, $120.00;

(B) Non-administrative variance, $400.00.

(11) Street name change, $400.00.

(12) Preparation of deed restrictions, certificates of common ownership, and similar documents, $100.00.

(13) Sidewalk obstruction permit under CBJ 62.10.010: $100.00.

(14) Certification of zoning compliance letters, $150.00.

(15) Appeal of director's decision, refundable if applicant prevails, $200.00.

(16) Fee not listed. The processing fee for any development, platting, or other land use action not specifically listed in this section shall be the fee established for the most similar action listed, as determined by the community development director.

(17) Fee cancellation. The director may authorize the refunding of a portion of the fee paid for a land use action when the permit application is cancelled before completion of the land use review process. The director may estimate the amount of work not completed and set the amount of the refund at that amount, less ten percent of the fee.

(18) Wireless communication facility application fees.

(A) Application fees required by subsection 49.65.940(b): $350.00.

(B) Additional fee required for special use permit applications required by subsection 49.65.970(b)(1): $500.00.

(C) Any actual costs incurred for technical expert review, publication and mailings.

(19) Marijuana license fee, $250.00.

(20) Certification of nonconforming status, $150.00; fee is waived if applied for in conjunction with a development permit.

(21) Parking waiver, $400.00. If the application is filed in conjunction with a major development permit the fee shall be reduced by 20 percent.

(22) Fee in lieu, $10,000.00 per off-street parking space required.

(Serial No. 87-49, § 2, 1987; Serial No. 91-02, § 2, 1991; Serial No. 91-42, § 2, 1991; Serial No. 92-42, § 4, 1992; Serial No. 94-24, § 2, 1994; Serial No. 95-33, § 10, 1995; Serial No. 95-40, § 5, 1996; Serial No. 96-30, § 8, 1996; Serial No. 97-04, § 2, 1997; Serial No. 97-12, § 3, 1997; Serial No. 2000-38, § 2, 10-16-2000; Serial No. 2003-07(am), § 7, 5-12-2003; Serial No. 2010-15(c), § 3, 5-19-2010; Serial No. 2014-32(e)am, § 4, 9-29-2014, eff. 10-29-2014 ; Serial No. 2015-03(c)(am), § 61, 8-31-2015 ; Serial No. 2015-38(b)(am), § 2 5-2-2016, eff. 6-2-2016 ; Serial No. 2017-16, § 3, 6-26-2017, eff. 7-27-2017 ; Serial No. 2018-04(b), § 3, 5-14-2018, eff. 6-14-2018 ; Serial No. 2018-41(c), § 4, 12-17-2018, eff. 1-17-2019 ; Serial No. 2019-37, § 8, 3-16-2020, eff. 4-16-2020 ; Serial No. 2021-06, § 7, 4-26-2021, eff. 5-26-2021; Serial No. 2021-19, § 10, 8-2-2021, eff. 9-1-2021; Serial No. 2022-04(b) , § 5, 4-25-2022, eff. 5-26-2022; Serial No. 2021-36 , § 4, 9-12-2022, eff. 10-13-2022)

49.85.110 Amendment of rates.

The manager may adjust the rates in this chapter from time to time to reflect changes in the cost of providing municipal services generally.

(Serial No. 87-49, § 2, 1987)

49.85.130 Payment of fees.

No application, petition, request or appeal for which a fee is established under this title shall be complete unless accompanied by the required fee and shall be returned unless accompanied by such fee. All fees shall be nonrefundable except, if the appellant prevails in an appeal to the assembly or if the appeal is withdrawn prior to commencement of the hearing, the appeal fee shall be refunded less $25.00 and hearing officer expenses incurred to withdrawal.

(Serial No. 87-49, § 2, 1987)

49.85.140 Development, work, or use commencing before permit application or issuance.

(a) Any development, work, or use for which a permit is required under this title, but for which no permit is applied for and issued prior to the commencement of the development, work, or use requiring the permit, shall be subject to processing fees in an amount double that specified in section 49.85.100 for the permit.

(b) The director may waive processing fees in excess of those listed in section 49.85.100 upon a finding that processing the permit application will not require staff time and/or materials in excess of what would have been required to process the permit application if it had been applied for prior to commencing the development, work, or use.

(Serial No. 2009-04, § 2, 6-8-2009)

ARTICLE II. PARKING AND LOADING[1]

49.40.200 General applicability.

Developers must provide off-street parking spaces for automobiles in accordance with the requirements set forth in this chapter at the time any structure is erected, expanded, or when there is a change in the principal use.

(a) *Special parking areas.*

(1) *Town center parking area.* The town center parking area, as depicted in Ordinance 2022-04(b) is adopted. The town center parking area consists of the lots within the area bound by West Tenth Street, Egan Drive, West Twelfth Street, D Street, West Ninth Street, C Street and its projection, West Eight Street and its projection, the rear lot lines of property between 370 through Distin Avenue, Sixth Street and its projection, Harris Street, projection of Third Street, projection of East Street, projection of Second Street, projection of Harris Street, the rear lot lines of property between 143 and 400 Gastineau Avenue, the rear lot lines of property between 511 and 889 South Franklin Street, and Gastineau Channel.

(2) *No parking required area.* The no parking required area, as depicted in Ordinance 2022-04(b) is adopted. The lots within the area bound by Gastineau Avenue, Fourth Street, Seward Street, Gastineau Channel, 490 South Franklin Street, and Layton Way are excluded from the parking requirements of this chapter. No additional parking is required for development in this area.

(b) *Conforming parking.* The requirements, alternatives and reductions of this chapter can be combined to meet parking requirements of a development.

(c) *Developer responsibility.* Developer must submit documentation to demonstrate that applicable parking code requirements have been met, in conformance with this chapter.

(d) *Owner/occupant responsibility.* The provision and maintenance of off-street parking and loading spaces required in this chapter is a continuing obligation and joint responsibility of the owner and occupants.

(e) *Determination.* The determination of whether the parking requirements of this chapter are satisfied, with or without conditions, and deemed necessary for consistency with this title, must be made by:

(1) The director for minor development;

(2) The commission for major development; or

[1]Sec. 2 of Serial No. 2022-04(b) , adopted April 25, 2022, repealed and reenacted art. II in its entirety to read as herein set out. Former art. II pertained to the same subject matter, consisted of §§ 49.40.200—49.40.230, and derived from Serial No. 87-49, 1987; Serial No. 89-05, 1989; Serial No. 89-33, 1989; Serial No. 92-11, 1992; Serial No. 97-49, 1997; Serial No. 2006-14(b), adopted May 15, 2006; Serial No. 2006-15, adopted June 5, 2006; Serial No. 2006-33am, adopted October 30, 2006; Serial No. 2007-18, adopted April 23, 2007; Serial No. 2009-22(b), adopted October 12, 2009; Serial No. 2010-22, adopted July 19, 2010 ; Serial No. 2015-07(b)(am), adopted February 13, 2015; Serial No. 2015-32 , adopted August 10, 2015; Serial No. 2016-14 , adopted May 2, 2016; Serial No. 2016-46 , adopted March 6, 2017; Serial No. 2018-31 , adopted June 4, 2018; and Serial No. 2019-37 , adopted March 16, 2020.

(3) The commission if the development application relates to a series of applications for minor developments that, taken together, constitute major development, as determined by the director.

(f) *Expansion.* In cases of expansion of a structure on or after the effective date of Ordinance 2022-04(b) :

(1) The number of additional off-street parking spaces required must be based on the gross floor area added.

(2) No additional parking spaces are required if the additional spaces would amount to less than ten percent of the total required for the development and amount to two or less spaces.

(3) For phased expansion, the required off-street parking spaces is the amount required for the completed development, as determined by the director.

(g) *Change in use.* In cases of a change in use on or after the effective date of Ordinance 2022-04(b) , the number of spaces required will be based on this chapter.

(h) *Replacement and reconstruction of certain nonconforming structures.* Off-street parking requirements for the replacement and reconstruction of certain nonconforming structures in residential districts must be governed by chapter 49.30.

(i) *Mixed occupancy.* Mixed occupancy is when two or more of the parking uses in section 49.40.210 share the same lot(s). For mixed occupancy, the total requirement for off-street parking facilities is the sum of the requirements for the uses computed separately.

(j) *Uses not specified.* The requirements for off-street parking in section 49.20.320 are based on the requirements for the most comparable use specified, as determined by the director for minor development or by the commission for major development.

(k) *Location.* Off-street parking facilities must be located as provided in this chapter. If a distance is specified, such distance is the walking distance measured from the building being served to the parking provision. Off-street parking facilities for:

(1) Single-family dwellings and duplexes must be on the same lot as the building served;

(2) Multifamily dwellings may not be more than 100 feet distant, unless compliant with section 49.40.215; and

(3) Uses other than those specified above, may be not more than 500 feet distant, unless compliant with section 49.40.215.

(l) *Off-street parking requirements for a lot accessible by air or water only.* Off-street parking requirements do not apply to a lot if it is accessible only by air or water. If the director determines that public access by automobile to the lot later becomes available, the owner of the property must be given notice and within one year must provide the required off-street parking.

(Serial No. 2022-04(b) , § 2, 4-25-2022, eff. 5-26-2022)

49.40.210 Number of off-street parking spaces required.

(a) *General.* The minimum number of off-street parking spaces required must be as set forth in the following table. The number of spaces must be calculated and rounded down to the nearest whole number:

Use	Spaces Required in All Other Areas	Spaces Required in Town Center Parking Area

Single-family and duplex	2 per each dwelling unit	1 per each dwelling unit
Multifamily units	1 per one bedroom unit	0.4 per one bedroom unit
	1.5 per two-bedroom unit	0.6 per two-bedroom unit
	2.0 per three- or more bedroom unit	0.8 per three- or more bedroom unit
Rooming house, boardinghouse, single-room occupancies with shared facilities, bed and breakfast, halfway house, and group home	1 per 2 bedrooms	1 per 5 bedrooms
Single-room occupancies with private facilities	1 per each single-room occupancy plus 1 additional per each increment of four single-room occupancies with private facilities	1 per 5 single-room occupancies, plus 1 per each increment of ten single-room occupancies with private facilities.
Accessory apartment	1 per each unit	0 per each unit
Motel	1 per each unit in the motel	1 per each 12 units in the motel
Hotel	1 per each four units	1 per each 12 units
Hospital and nursing home	2 per bed OR one per 400 square feet of gross floor area	2 per bed OR one per 400 square feet of gross floor area
Senior housing	0.6 parking spaces per dwelling unit	0.3 spaces per dwelling unit
Assisted living facility	0.4 parking spaces per maximum number of residents	0.4 parking spaces per maximum number of residents
Sobering center	1 parking space per 12 beds	2 parking spaces
Theater	1 for each four seats	1 for each 10 seats
Church, auditorium, and similar enclosed places of assembly	1 for each four seats in the auditorium	1 for each 10 seats in the auditorium
Bowling alley	3 per alley	1.2 per alley
Bank, office, retail commercial, salon and spa	1 per 300 square feet of gross floor area	1 per 750 square feet of gross floor area
Medical or dental clinic	1 per 200 square feet of gross floor area	1 per 400 square feet of gross floor area
Funeral Home	1 per six seats based on maximum seating capacity in main auditorium	1 per 15 seats based on maximum seating capacity in main auditorium
Warehouse, storage, and wholesale businesses	1 per 1,000 square feet of gross floor area	1 per 2,500 square feet of gross floor area
Restaurant and alcoholic beverage dispensary	1 per 200 square feet of gross floor area	1 per 750 square feet of gross floor area
Swimming pool serving general public	1 per four persons based on pool capacity	1 per 10 persons based on pool capacity
Shopping center and mall	1 per 300 square feet of gross leasable floor area	1 per 750 square feet of gross floor area
Convenience store	49.65 Article V	1 per 750 square feet of gross floor area
Watercraft moorage	1 per three moorage stalls	2 per 15 moorage stalls
Manufacturing uses; research, testing and	1 per 1,000 square feet gross floor area except that office space must	1 per 2,500 square feet gross floor area except that office space must provide parking as provided for offices

processing, assembling, industry	provide parking as required for offices	
Library and museum	1 per 600 square feet gross floor area	1 per 1,500 square feet of gross floor area
School, elementary	2 per classroom	2 per classroom
Middle school or junior high	1.5 per classroom	1.5 per classroom
High school	A minimum of 15 spaces per school; where auditorium or general assembly area is available, one per four seats; one additional space per classroom	A minimum of 15 spaces per school; where auditorium or general assembly area is available, one per four seats; one additional space per classroom
College, main campus	1 per 500 square feet of gross floor area of an enclosed area, or, where auditorium or general assembly area is available, one per four seats, whichever is greater	1 per 500 square feet of gross floor area of an enclosed area, or, where auditorium or general assembly area is available, one per four seats, whichever is greater
College, satellite facilities	1 per 300 square feet of gross floor area of an enclosed area, or, where auditorium or general assembly area is available, one per four seats, whichever is greater	1 per 300 square feet of gross floor area of an enclosed area, or, where auditorium or general assembly area is available, one per four seats, whichever is greater
Repair/service station	5 spaces per bay. For facilities with two or more bays, up to 60 percent of the required non-accessible parking spaces may be in a stacked parking configuration.	3 spaces per bay. All but two of the required non-accessible parking spaces may be in a stacked configuration
Post office	1 per 200 square feet gross floor area	1 per 500 square feet of floor area
Childcare Home	49.65 Article X, cannot be varied or FIL	49.65 Article X, cannot be varied or FIL
Childcare Center	49.65 Article X, cannot be varied or FIL	49.65 Article X, cannot be varied or FIL
Indoor sports facilities, gyms	1 per 300 square feet gross floor area	1 per 750 square feet gross floor area
Mobile Food Vendors	No parking requirement	No parking requirement
Open air food service (TPU 8.3)	1 per 400 square feet of gross floor area.	Zero

(b) *Accessible parking spaces.* Accessible parking spaces must be provided as part of the required off-street parking spaces, according to the following table (Table 49.40.210(b)). Except, Accessible parking spaces are not required for residential uses that require fewer than ten parking spaces and there are no visitor parking spaces.

Table 49.40.210(b)	
Total Parking Spaces in Lot	**Required Minimum Number of Accessible Parking Spaces**
1 to 25	1
26 to 50	2

51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1,000	2 percent of total spaces
1,001 and over	20 plus 1 space for each 100 spaces over 1,100 total spaces in lot

(c) *Facility loading spaces.* In addition to the required off-street parking requirements, a development must provide loading spaces as set forth in the following table:

	Gross Floor Area in Square Feet		
Use	**All other areas**	**Town Center Parking District**	**Loading Space Required**
Motels and hotels	5,000—29,999	6,000—60,000	1
	30,000—60,000		2
	Each additional 30,000	Each additional 30,000	1
Commercial	5,000—24,999	6,000—50,000	1
	25,000—50,000		2
	Each additional 30,000	Each additional 30,000	1
Industrial, manufacturing, warehousing, storage, and processing	5,000—24,999	6,000—50,000	1
	25,000—50,000		2
	Each additional 30,000	Each additional 30,000	1
Hospital	5,000—40,000	6,000—40,000	1
	Each additional 40,000	Each additional 40,000	1
School	For every two school buses		1
Home for the aged, convalescent home, correctional institution	More than 25 beds		1

(Serial No. 2022-04(b) , § 2, 4-25-2022, eff. 5-26-2022)

49.40.215 Parking alternatives.

Parking alternatives are methods of accommodating required parking without building parking on site. A developer may apply for one or more parking alternatives. Parking alternatives may be combined with approved reductions.

(a) *Joint use.* Joint use occurs when the same off-street parking space is used to meet the parking requirement of different uses at different times. Joint use of off-street parking spaces may be authorized when the developer demonstrates there is no substantial conflict in the principal operating hours of the structures and uses involved and subject to the following requirements:

(1) Any structure or use sharing the off-street parking facilities of another structure or use must be located within 500 feet of such parking facilities, unless a lesser radius is identified in this chapter. A developer may apply to provide off-street parking in an area greater than 500 feet distant, if approved by the commission.

(2) The developer demonstrates with appropriate analysis or data that there is no substantial conflict in the principal operating hours of the structures or users for which joint use of off-street parking facilities is proposed.

The developer must present to the director a written instrument, proposed by the parties concerned, providing for joint use of off-street parking facilities. Upon approval by the director, such instrument must be recorded by the developer and documentation of recording provided to the director.

(b) *Loading spaces off-site.* The required loading space(s) may be met by an alternative private off-site loading parking space, if the alternate space is determined by the director of adequate capacity and proximity. In no case will the distance exceed standards established in subsection 49.40.200(k).

(Serial No. 2022-04(b) , § 2, 4-25-2022, eff. 5-26-2022)

49.40.220 Parking reductions.

A parking reduction reduces the required off-street parking spaces for a development. A developer may apply for one or more parking reductions. Accessible parking spaces must not be reduced and must be provided in accordance with subsection 49.40.210(b). Loading spaces must not be reduced and must be provided in accordance with subsection 49.40.210(c).

(a) *Parking waivers.* The required number of parking spaces required by this chapter may be reduced if the requirements of this section are met.

(1) *Standards.* Any waiver granted under this section must be in writing and must include the following required findings and any conditions, such as public amenities, imposed by the director or commission that are consistent with the purpose of this title:

(A) The effect of granting a waiver would result in more benefits than detriments to the neighboring area and community as a whole as identified by the comprehensive plan; and

(B) The effect of granting a waiver will not materially endanger public health, safety, or welfare.

(2) *Relevant information.* The following information may be relevant for the director or commission's review:

(A) Analysis or data relevant to the intended use and related parking demands.

(B) Provision for alternative transportation.

(C) Traffic mitigation measures supported by industry standards.

(D) Bicycle and pedestrian amenities.

(3) *Applications.* Applications for parking waivers must be on a form specified by the director and must be accompanied by a one-time fee as provided in chapter 49.85.

(4) *Public notice.* The director must mail notice of any complete parking waiver application to the owners of record of property located within a 250-foot radius of the site seeking the waiver. If the parking waiver application is filed in conjunction with a major development permit, notice of both applications should be made concurrently in accordance with CBJ 49.15.230.

(5) *Expiration.* An approved parking waiver expires upon a change in use.

(b) *Town center parking area, fee-in-lieu of off-street parking spaces.* In the town center parking area, a developer may pay a one-time fee in lieu of providing off-street parking spaces to satisfy the minimum parking requirements of this chapter. Fee in lieu can be used in any combination with other parking provisions of this chapter. Any fee in lieu due must be paid in full prior to the issuance of a temporary certificate of occupancy.

(Serial No. 2022-04(b) , § 2, 4-25-2022, eff. 5-26-2022)

49.40.225 Dimensions and signage for required off-street parking spaces.

(a) *Standard spaces.*

(1) Except as provided in this section, each standard parking space must consist of a generally rectangular area at least eight and one-half feet by 17 feet. Lines demarcating parking spaces may be drawn at any angle to curbs or aisles so long as the parking spaces so created contain within them the rectangular area required by this section.

(2) Spaces parallel to the curb must be no less than 22 feet by six and one-half feet.

(b) *Accessible spaces.*

(1) Each accessible parking space must consist of a generally rectangular area at least 13 feet by 17 feet, including an access aisle of at least five feet by 17 feet. Two accessible parking spaces may share a common access aisle.

(2) One in every eight accessible parking spaces, but not less than one, must be served by an access aisle with a width of at least eight feet and must be designated "van-accessible."

(3) Accessible parking spaces must be designated as reserved by a sign showing the symbol of accessibility. "Van-accessible" parking spaces must have an additional sign designating the parking space as "van-accessible" mounted below the symbol of accessibility. A sign must be located so it cannot be obscured by a vehicle parked in the space.

(4) Access aisles for accessible parking spaces must be located on the shortest accessible route of travel from parking area to an accessible entrance.

(c) *Facility loading spaces.*

(1) Each off-street loading space must be not less than 30 feet by 12 feet, must have an unobstructed height of 14 feet six inches, and must be permanently available for loading.

(Serial No. 2022-04(b) , § 2, 4-25-2022, eff. 5-26-2022)

49.40.230 Parking area and site circulation review procedures.

(a) *Purpose.* The purpose of these review procedures is to ensure that proposed parking and related site access areas provide for adequate vehicular and pedestrian access and circulation; that parking spaces are usable, safe, and conveniently arranged; that sufficient consideration has been given to off-street loading and unloading; and that the parking area will be properly drained, lighted, and landscaped.

(b) *Plan submittal.* Development applications must include plans for parking and loading spaces. Major development applications must include plans prepared by a professional engineer or architect. These plans may be part of a plan submission prepared in conjunction with the required review of another aspect of the proposed development.

(1) *Contents.* The plans must contain the following information:

(A) Parking and loading space plans drawn to scale and adequate to show clearly the circulation pattern and parking area function;

(B) Existing and proposed parking and loading spaces with dimensions, traffic patterns, access aisles, and curb radii;

(C) Improvements including roads, curbs, bumpers and sidewalks indicated with cross sections, designs, details, and dimensions;

(D) A parking schedule indicating the number of parking spaces required, the number provided, and how such calculations were determined;

(E) Topography showing existing and proposed contour intervals; and

(F) Landscaping, lighting and sign details, if not provided in conjunction with the required review of another aspect of the proposed development.

(2) *Waiver of information.* The director may waive submission of any required exhibits.

(c) *Review procedure.* Plans must be reviewed and approved according to the procedures of this chapter and chapter 49.15.

(d) *Public improvements required.* As a condition of plan approval, the department may require a bond approved as to form by the municipal attorney for the purpose of ensuring the installation of off-site public improvements. As a condition of plan approval, the applicant is required to pay the cost of providing reasonable and necessary public improvements located outside the property limits of the development but necessitated by construction or improvements within such development.

(Serial No. 2022-04(b) , § 2, 4-25-2022, eff. 5-26-2022)

49.40.235 Parking and circulation standards.

(a) *Purpose.* Provisions for pedestrian and vehicular traffic movement within and adjacent to the site must address layout of parking areas, off-street loading and unloading needs, and the movement of people, goods, and vehicles from access roads, within the site, and between buildings and vehicles. Parking areas must be landscaped and must feature safely arranged parking spaces.

(b) *Off-street parking and loading spaces; design standards.*

(1) *Access.* There must be adequate ingress and egress from parking spaces. The required width of access drives for driveways must be determined as part of plan review depending on use, topography and similar considerations.

(2) *Size of aisles.* The width of aisles providing direct access to individual parking stalls must be in accordance with the following table. Other angles may be approved by the director that satisfy the needs of this chapter.

Parking Angle	0°	30°	45°	60°	90°
One-way traffic aisle width	13'	11'	13'	18'	24'

Two-way traffic aisle width	19'	20'	21'	23'	24'

(3) *Location in different zones.* No access drive, driveway or other means of ingress or egress may be located in any residential zone if it provides access to uses other than those permitted in such residential zone.

(4) *Sidewalks and curbing.* Sidewalks must be provided with a minimum width of four feet of passable area and must be raised six inches or more above the parking area except when crossing streets or driveways. Guardrails and wheel stops permanently anchored to the ground must be provided in appropriate locations. Parked vehicles must not overhang or extend over sidewalk areas, unless an additional sidewalk width of two feet is provided to accommodate such overhang.

(5) *Stacked parking.* Stacked parking spaces may only be counted as required parking spaces for single-family residences, duplexes, and as otherwise specified for specific uses. In the case of single-family residences and duplexes with or without accessory uses and child care homes in a residential district, only a single parking space per dwelling unit may be a stacked parking space.

(6) *Back-out parking.* Parking space aisles must provide adequate space for turning and maneuvering on-site to prevent back-out parking onto a right-of-way. If the director or the commission, when the commission has authority, determines back-out parking would not unreasonably interfere with the public health and safety of the parking space aisles and adjacent right-of-way traffic, back-out parking is allowed in the following circumstance:

(A) In the case of single-family dwellings and duplexes with or without accessory uses located in residential and rural reserve zoning districts;

(B) Where the right-of-way is an alley; or

(C) In the case of a child care home in a residential district.

(c) *Drainage.*

(1) Parking areas must be suitably drained.

(2) Off-site drainage facilities and structures requiring expansion, modification, or reconstruction in part or in whole as the result of the proposed development must be subject to off-site improvement requirements and standards as established by the city.

(d) *Lighting.* Parking areas must be suitably lighted. Lighting fixtures must be "full cutoff" styles that direct light only onto the subject parcel.

(e) *Markings and access.* Parking stalls, driveways, aisles and emergency access areas and routes must be clearly marked.

(f) *General circulation and parking design.*

(1) Parking space allocations must be oriented to specific buildings. Parking areas must be linked by walkways to the buildings they serve.

(2) Where pedestrians must cross service roads or access roads to reach parking areas, crosswalks must be clearly designated by pavement markings or signs. Crosswalk surfaces must be raised slightly to designate them to drivers, unless drainage problems would result.

(Serial No. 2022-04(b) , § 2, 4-25-2022, eff. 5-26-2022)

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.

SUBDIVISION AND DEVELOPMENT PLAN APPLICATION

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

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~~ (1) full size PDF original of plat.
- ☐ 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.

PRELIMINARY PLAT CHECK LIST

Name of Proposed Subdivision: _____

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

- [X] Application, filled out completely
- [X] Application fee (see fee schedule)
- [X] Project Narrative
- [X] ~~Five (5) – 24" by 36" Copies~~ (1) full size PDF original of plat.
- [X] Pre-application Conference Report
- [X] Lot Closure Report
- [X] 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

- [X] The preliminary plat shall be prepared by a professional land surveyor, registered in the State of Alaska
- [X] The preliminary plat shall be submitted on ~~22 by 34 inch sheets.~~ 24x36 PDF original. The director of engineering and public works may approve alternate sheet sizes
- [X] 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
- [X] The preliminary plat shall be oriented with north toward the top of the sheet.
- [X] A vicinity map shall be located in the upper right-hand corner of the sheet
- [X] The vicinity map shall be oriented in the same direction as the plat
- [X] A suitable north arrow shall be shown for the plat and vicinity map
- [X] 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:

- [X] The proposed name of the subdivision
- [X] 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
- [X] "City and Borough of Juneau, Alaska"
- [X] "State Recorder's Office at Juneau"
- [X] The date the preliminary plat was prepared and revised
- [X] The horizontal scale
- [X] The name and address of the owner of record
- [X] The name, address, and telephone number of the surveyor preparing the preliminary plat

Lot, block, and street information:

- X The area of each lot
- X The dimensions in feet and hundredths of a foot
- X An identifying number and letter for lots and blocks
- X Lots numbered consecutively, commencing with the number "1," with no omissions or duplications
- X If the remainder of an original parcel being subdivided is relatively large, it shall be designated as a "tract" with an identifying number
- X 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
- X Abutting properties shall be shown with dashed lines, numbers, and/or letters
- X 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
    - X The minimum data shown for each curve shall be as follows:
        - □ Length
        - □ Central angle
        - □ Radius
        - □ Bearing and distance of long chord
    - X Setbacks shall be shown on all corner lots and any lots with multiple frontage. Setbacks shall be shown on typical lots

Boundary lines:

- X All boundary lines of the subdivision with bearings and distances described
- X 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
- X 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
- X 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

- X All proposed and existing easements shall have sufficient dimensions shown to determine their location on the ground
- X 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
- X 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
- X For slopes greater than ten percent, show five foot contour lines
- X Every fifth elevation contour shall be distinctive and clearly labeled
- X Dashed lines shall represent existing contours
- X 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
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  - ☐ 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

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☒ 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.

GENERAL NOTES

1) THE PURPOSE OF THIS PLAT IS TO SUBDIVIDE TRACT II, USS 2135 AS SHOWN ON PLAT NO. 273 INTO LOTS 1-25 AND TRACT A&B, SEET KANAX DUTEET SUBDIVISION.

2) TOTAL AREA = 767,527.6

3) PARCELS CREATED BY THIS PLAT:
LOTS 1-25, SEET KANAX DUTEEN SUBDIVISION
TRACT A, SEET KANAX DUTEEN SUBDIVISION
TRACT B, SEET KANAX DUTEEN SUBDIVISION

4) THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION HAS SUSPENDED THEIR PROGRAM OF SUBDIVISION PLAN REVIEW AT THE TIME OF THIS SURVEY. CONTACT ADEC FOR INFORMATION ABOUT THEIR REQUIREMENTS FOR DEVELOPMENT OF LOTS WITHIN THIS SUBDIVISION.

5) THE DATE OF THE FIELD SURVEY WAS _____

6) THIS SURVEY IS SUBJECT TO:
A) PLAT NO. 269, J.R.D.
B) PLAT NO. 273, J.R.D.
C) PLAT NO. 325, J.R.D.
D) PLAT NO. 83-31, J.R.D.
E) PLAT NO. 94-22, J.R.D.
F) PLAT NO. 96-25, J.R.D.
G) PLAT NO. 2006-6, J.R.D.
H) PLAT NO. 2014-43, J.R.D.

7) THIS SURVEY IS SUBJECT TO:
A) EASEMENTS AND NOTES RECORDED JUNE 6, 1951 IN MISCELLANEOUS BOOK 26 AT PAGE 515 FOR THE PURPOSES OF THE CONSTRUCTION, MAINTENANCE, REPAIR, RECONSTRUCTION, AND USE OF ELECTRICAL TRANSMISSION AND DISTRIBUTION SYSTEM.
B) RESERVATION OF EASEMENT FOR HIGHWAY PURPOSES, AND ANY ASSIGNMENTS OR USES THEREOF FOR RECREATIONAL, UTILITY OR OTHER PURPOSES, AS DISCLOSED BY PUBLIC LAND ORDER NO. 601, DATED AUGUST 10, 1949, AND AMENDED BY PUBLIC LAND ORDER NO. 757, DATED OCTOBER 10, 1959; PUBLIC LAND ORDER NO. 842, DATED JUNE 19, 1952; PUBLIC LAND ORDER NO. 1613, DATED APRIL 17, 1958; AND DEPARTMENT OF THE INTERIOR ORDER NO. 2665, DATED OCTOBER 16, 1951, AMENDMENT NO. 1 THERETO, DATED JULY 17, 1952 AND AMENDMENT NO. 2 THERETO, DATED SEPTEMBER 15, 1956, FILED IN THE FEDERAL REGISTER.

8) ZONING FOR THE SUBJECT PROPERTIES IS D18

9) THE CLOSURE ERROR OF THIS SURVEY DOES NOT EXCEED 1:5000.

10) ALL BEARINGS SHOWN ARE TRUE BEARINGS AS ORIENTED TO THE BASIS OF BEARINGS AND DISTANCES SHOWN ARE REDUCED TO HORIZONTAL FIELD DISTANCES.

11) THIS PLAT HAS BEEN PREPARED WITH THE AID OF A CERTIFICATE TO PLAT FROM ALASKA ESCROW AND TITLE INSURANCE AGENCY, INC. FILE NO. 67154

LEGEND

- 3" ALUMINUM PIPE MONUMENT RECOVERED THIS SURVEY
- BRASS CAP RECOVERED THIS SURVEY
- REBAR WITH 2" CAP RECOVERED THIS SURVEY
- MONUMENT SET THIS SURVEY PER DETAIL

CBJ CITY AND BOROUGH OF JUNEAU
J.R.D. STATE RECORDER'S OFFICE AT JUNEAU
N.A.P. NOT A PART OF THIS PLAT
PROPERTY LINES A PART OF THIS SURVEY
PROPERTY LINES NOT A PART OF THIS SURVEY
EASEMENT LINE THIS SURVEY
RECORD EASEMENT LINE
LINES REMOVED THIS SURVEY
( ) INDICATES RECORD DATA
WC WITNESS CORNER

12) THE VERTICAL ELEVATIONS SHOWN ON THIS PLAT ARE BASED ON THE NATIONAL OCEAN SERVICE BENCH MARK "2200 M 2017" WITH A PUBLISHED ELEVATION OF 27.62' MEAN LOWER LOW WATER. THIS MONUMENT IS A 3.25" DIA. BRASS CAP GROUTED IN A CONCRETE ELECTRICAL VAULT NEAR THE INTERSECTION OF WHITTIER STREET AND WEST 3RD AVENUE.

OWNER'S CERTIFICATE

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY AS SHOWN HERE ON AND THAT I APPROVE THE PLAT OF THIS SURVEY.

OWNER: THRHA DATE

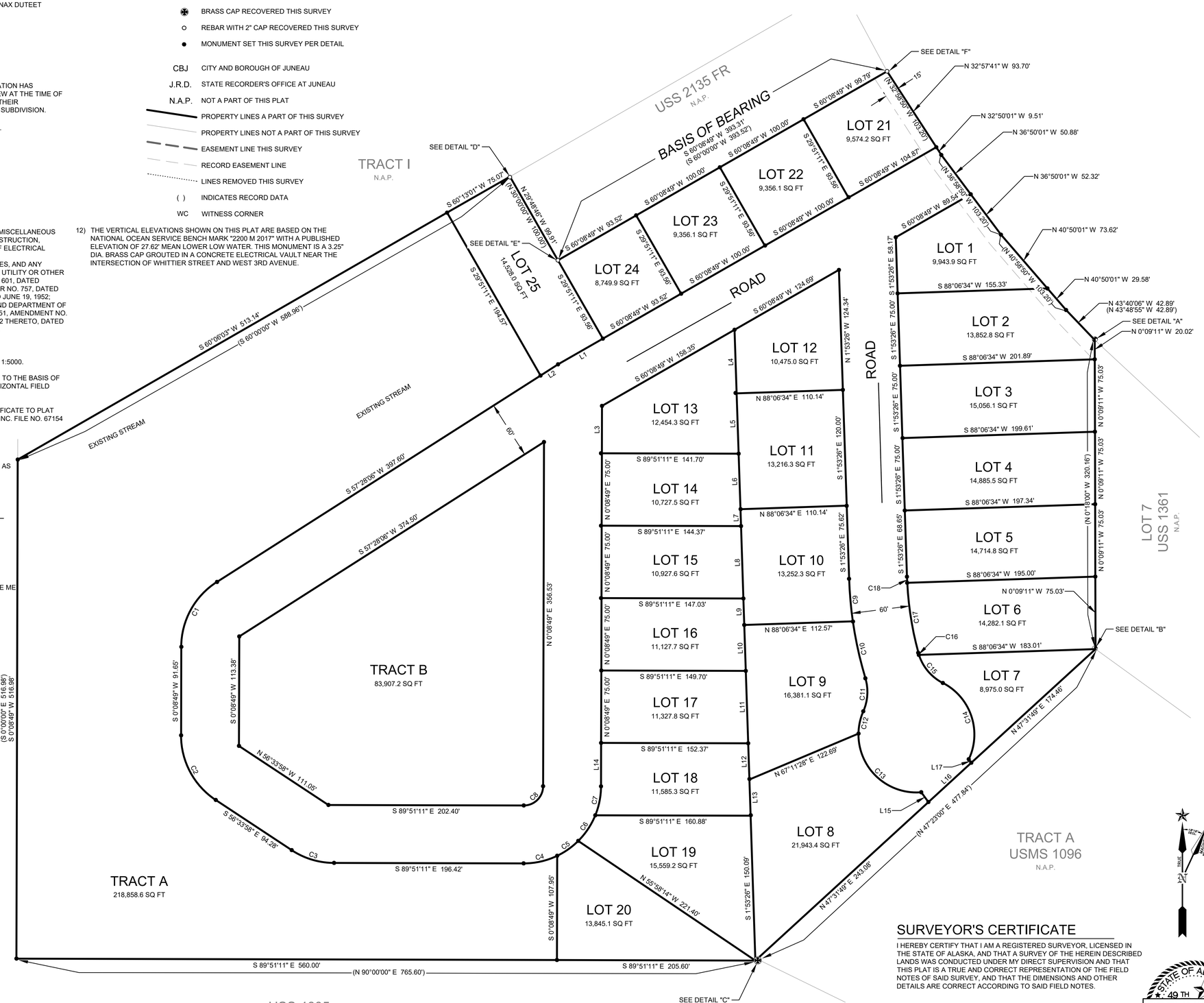
NOTARY ACKNOWLEDGMENT

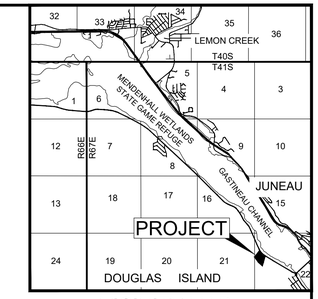
STATE OF ALASKA
FIRST JUDICIAL DISTRICT

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS DAY OF , 2023
BY:
(SIGNER'S NAME, PRINTED BY NOTARY)

NOTARY PUBLIC IN AND FOR ALASKA

MY COMMISSION EXPIRES: _____





VICINITY MAP
SCALE: 1 INCH = 1 MILE
SOURCE: USGS QUADRANGLE
JUNEAU B-2 SE
2017

SCALE 1"=50'

THIS DRAWING MAY BE REDUCED, VERIFY SCALE BEFORE USING

25 50 100 150 200 FEET
10 20 40 60 METERS

1 METER=3.2808333 U.S. SURVEY FEET
1 U.S. ACRE=0.4047 HECTARES

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT THE DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.

DATE:

SIGNATURE:

STATE OF ALASKA 49 TH
PRELIMINARY
Christopher G. Poulin
No.107552
REGISTERED PROFESSIONAL LAND SURVEYOR

SEET KANAX DUTEEN SUBDIVISION

CREATING LOTS 1 - 25 AND TRACT A & B

A SUBDIVISION OF TRACT II SUBDIVISION OF FRACTION OF USS 2135 (PLAT NO. 273, J.R.D.)

STATE RECORDER'S OFFICE AT JUNEAU
AND
CITY AND BOROUGH OF JUNEAU, ALASKA

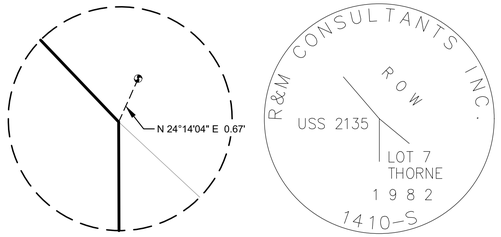
CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, AK 99901
PHONE: (907) 225-7917
FAX: (907) 225-3441

CERTIFICATE OF AUTHORIZATION: C576

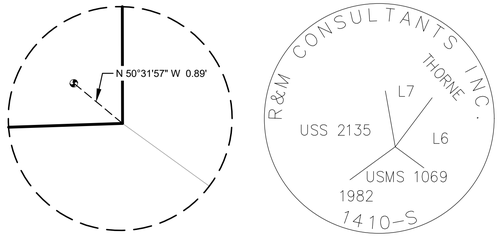
DATE:	DRAWN BY:	JOB NO.
10/13/2023	JPT	222321.10
SCALE: AS NOTED	APPRVD BY: CGP	SHEET NO: 1 OF 2

DETAIL "A"



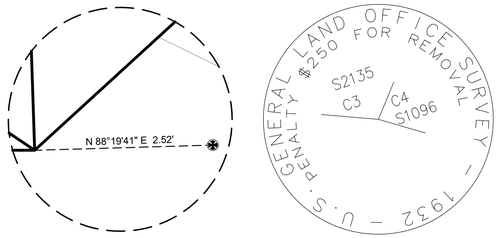
RECOVERED 5/8" DIA. REBAR WITH 3.25" DIA. ALUMINUM CAP PROJECTING 4" ABOVE GROUND IN GOOD CONDITION.

DETAIL "B"



RECOVERED 5/8" DIA. REBAR WITH 3.25" DIA. ALUMINUM CAP PROJECTING 12" ABOVE GROUND IN GOOD CONDITION.

DETAIL "C"



RECOVERED 2.5" DIA. POST MON. WITH 3.25" DIA. BRASS CAP PROJECTING 12" ABOVE GROUND IN GOOD CONDITION

DETAIL "D"

RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP FLUSH TO GROUND IN GOOD CONDITION

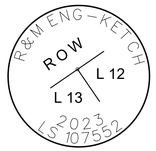
DETAIL "E"

RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP PROJECTING 2" ABOVE GROUND IN GOOD CONDITION

DETAIL "F"

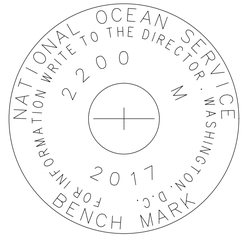
RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP PROJECTING FLUSH TO GROUND IN GOOD CONDITION

TYPICAL MONUMENT SET



5/8"x30" LONG REBAR AND 2" ALUMINUM CAP WITH PLASTIC INSERT SET THIS SURVEY

DETAIL "2200 M 2017"



RECOVERED 3.25" DIA. BRASS CAP GROUTED IN CONCRETE FLUSH TO GROUND IN GOOD CONDITION.

LINE TABLE

LINE #	LENGTH	BEARING
L1	53.46	S60° 08' 48.53"W
L2	21.56	S57° 28' 05.74"W
L3	49.10	N0° 08' 48.53"E
L4	65.88	N1° 53' 25.65"W
L5	62.48	N1° 53' 25.65"W
L6	57.52	N1° 53' 25.65"W
L7	17.52	N1° 53' 25.65"W
L8	75.05	N1° 53' 25.65"W
L9	27.43	N1° 53' 25.65"W
L10	47.62	N1° 53' 25.65"W
L11	75.05	N1° 53' 25.65"W
L12	37.52	N1° 53' 25.65"W
L13	37.52	S1° 53' 25.65"E
L14	45.00	N0° 08' 48.53"E
L15	12.60	N36° 01' 11.43"W
L16	60.30	N47° 31' 48.53"E
L17	4.50	S35° 47' 23.14"E

CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	80.04	80.00	57.32	S28° 48' 27"W	76.74
C2	79.19	80.00	56.71	S28° 12' 35"E	75.99
C3	46.48	80.00	33.29	S73° 12' 35"E	45.83
C4	35.97	80.00	25.76	N77° 15' 52"E	35.67
C5	26.86	80.00	19.24	N54° 45' 52"E	26.73
C6	32.08	80.00	22.98	N33° 39' 32"E	31.87
C7	30.75	80.00	22.02	N11° 09' 32"E	30.56
C8	31.42	20.00	90.00	N45° 08' 49"E	28.28
C9	44.47	405.00	6.29	S5° 02' 09"E	44.45
C10	60.24	405.00	8.52	S12° 26' 32"E	60.18
C11	35.19	50.00	40.33	N3° 27' 41"E	34.47
C12	23.78	60.00	22.70	S12° 16' 26"W	23.62
C13	100.22	60.00	95.70	S46° 55' 43"E	88.97
C14	92.25	60.00	88.09	N18° 46' 18"W	83.43
C15	39.21	50.00	44.93	S40° 21' 19"E	38.21
C16	2.41	50.00	2.76	S16° 30' 42"E	2.41
C17	73.38	345.00	12.19	S9° 02' 18"E	73.24
C18	6.35	345.00	1.05	S2° 25' 04"E	6.35

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT THE DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.

DATE:

SIGNATURE:

STATE OF ALASKA
49 TH
PRELIMINARY
Christopher G. Pollard
No.107552
REGISTERED PROFESSIONAL LAND SURVEYOR

SEET KANAX DUTEEN SUBDIVISION

CREATING LOTS 1 - 25 AND TRACT A & B

A SUBDIVISION OF TRACT II SUBDIVISION OF FRACTION OF USS 2135 (PLAT NO. 273, J.R.D.)

STATE RECORDER'S OFFICE AT JUNEAU
AND
CITY AND BOROUGH OF JUNEAU, ALASKA

CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801

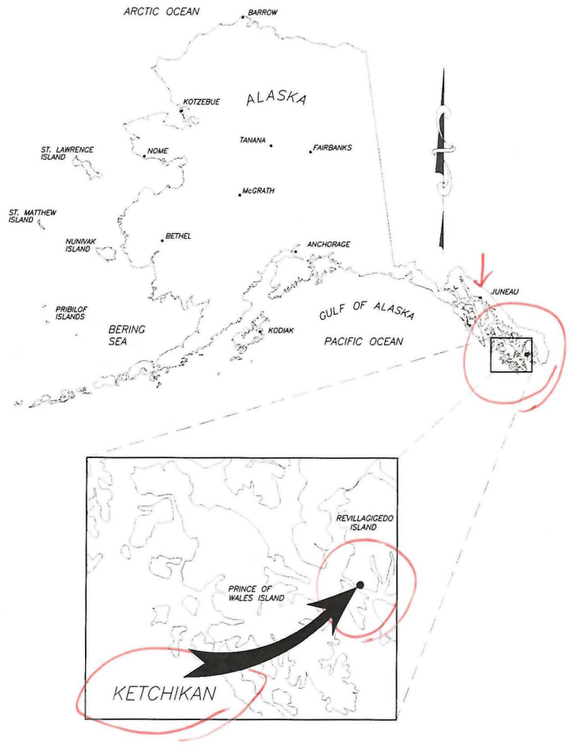
R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, AK 99901
PHONE: (907) 225-7917
FAX: (907) 225-3441

CERTIFICATE OF AUTHORIZATION: C576		
DATE: 10/13/2023	DRAWN BY: JPT	JOB NO. 222321.10
SCALE: AS NOTED	APPRVD BY: CGP	SHEET NO: 2 OF 2

SÉET KANAX̲ DUTÉEN

STREET AND UTILITY PLAN

35% DESIGN



PROJECT LOCATION MAP

NOT TO SCALE

PROJECT VICINITY MAP

NOT TO SCALE

SHEET INDEX	
A1	TITLE SHEET
A2	LEGEND AND GENERAL NOTES
A3–A4	SPECIFICATIONS
A5	SHEET LAYOUT AND SURVEY CONTROL
B1–B2	TYPICAL SECTIONS
E1–E7	DETAILS
F0–F3	PLAN AND PROFILE
P1–P6	EROSION AND SEDIMENT CONTROL PLAN
S0–S4	SECTION VIEWS

PROJECT NARRATIVE

////////

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: TITLE SHEET

A1

SHEET: 01 of 29

GENERAL NOTES

HORIZONTAL DATA:

1) THE HORIZONTAL CONTROL IN THIS DRAWING ARE LOCAL GRID COORDINATES AT GROUND.

VERTICAL DATA:

1) ELEVATIONS DETERMINED ON THIS PROJECT ARE ASSUMED.

GENERAL NOTES:

1) THE PROFILES SHOWN IN THESE PLANS HAVE A VERTICAL EXAGGERATION OF 2.0 UNLESS OTHERWISE NOTED.
2) WATER DISTRIBUTION SYSTEM CONSTRUCTION SHALL BE ACCORDANCE WITH THESE PLANS, THE CITY & BOROUGH OF JUNEAU STANDARD SPECIFICATIONS, AND ADEC REGULATIONS AS CONTAINED IN 18-AAC-80, DRINKING WATER.
3) ALL TRENCHING, COMPACTION, AND AGGREGATES SHALL BE COMPLETED IN ACCORDANCE WITH THE CITY & BOROUGH OF JUNEAU STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
4) WASTEWATER SYSTEM CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY & BOROUGH OF JUNEAU STANDARD SPECIFICATIONS, AND ADEC REGULATIONS AS CONTAINED IN 18-AAC-72, WASTEWATER DISPOSAL.
5) MAINTAIN MINIMUM 10 FOOT HORIZONTAL, AND 18 INCH VERTICAL SEPARATION BETWEEN SEWER AND WATER MAIN LINES AT ANY POINT UNLESS OTHERWISE NOTED IN PLANS.
6) WATER MAINS SHALL CROSS OVER THE TOP OF SEWER MAINS WITH 18 INCHES OF SEPARATION BETWEEN OUTSIDE EDGES OF THE PIPES. THE WATER LINE JOINTS SHALL BE AT LEAST 9 FEET FROM THE SEWER JOINTS. SEE DETAILS.
7) WATER PIPE SHALL BE 4710 RESIN SDR11 HDPE PIPE.
8) GRAVITY SEWER MAINS AND SERVICES SHALL BE C900 PVC PIPE.
9) ALL PRESSURE SEWER MAINS AND LATERALS SHALL BE 4710 RESIN SDR11 HDPE PIPE.
10) DO NOT CHANGE UTILITY DESIGN, LINE, GRADE, SIZE, MATERIALS, ETC. WITHOUT APPROVAL FROM THE DESIGN ENGINEER OR THE CITY AND BOROUGH OF JUNEAU.
11) THE WATER LINE DESIGN IS BASED ON HDPE PIPE WITH AN ALLOWABLE BENDING RADIUS = 10-D. THE CONTRACTOR SHALL SUBMIT ALIGNMENT SHOP DRAWINGS IF SELECTED HDPE PIPE MANUFACTURER'S ALLOWABLE BENDING RADIUS IS GREATER.
12) MAINTAIN 5' MINIMUM COVER ON WATER MAINS AND 5' MINIMUM COVER OVER SANITARY SEWER FORCE MAINS AND PRESSURE LATERALS.
13) SEWER PIPE ELEVATIONS ARE TO BOTTOM OF PIPE.
14) SEWER PIPE SLOPES ARE CALCULATED FROM FACE OF MANHOLE.
15) SUBMITTALS – THE CONTRACTOR SHALL SUBMIT DATA SHEETS FOR ALL CONSTRUCTION MATERIALS TO THE CITY & BOROUGH OF JUNEAU PUBLIC WORKS DEPARTMENT AND OBTAIN WRITTEN APPROVAL FOR THE CONSTRUCTION MATERIALS PRIOR TO PURCHASING AND INSTALLING THEM. THE CONSTRUCTION MATERIALS INCLUDE BUT ARE NOT LIMITED TO ALL PIPE, FITTINGS, VALVES, CURB STOPS, CORPORATION STOPS, TAPPING SADDLES, MANHOLES, FRAMES & LIDS, CLEANOUTS, AND HYDRANTS.
16) THE CONTRACTOR SHALL ADHERE TO CITY & BOROUGH OF JUNEAU CODE 42.20.095(C) REGARDING NOISE POLLUTION AND SHALL APPLY FOR PERMITS WHEN APPROPRIATE.

SOIL INVESTIGATION RESULTS

NO SOIL INVESTIGATION HAS BEEN CONDUCTED AT THIS TIME.

LEGEND

FEATURE DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		N/A
PROPERTY LINE (INFORMATIONAL)		N/A
CENTERLINE		
CONCRETE		
ASPHALT		
BUILDING LINE		
BUILDING OVERHANG		AS NOTED
EDGE OF ASPHALT/CONCRETE		(PATCH)
EDGE OF GRAVEL		N/A
TOP/TOE/DITCH (GENERAL)		
OVERHEAD UTILITY LINE	XOH XOH XOH XOH	N/A
UNDERGROUDN UTILITY LINE	UGP UGP UGP UGP	N/A
STORM DRAIN	XSD XSD XSD XSD	SD SD SD SD
SEWER LINE	XSS XSS XSS XSS	SS SS SS SS
SEWER LINE (RECORD)	SS(R) SS(R) SS(R)	N/A
SANITARY SEWER PRESSURE LINE	XFM XFM XFM	FM FM FM FM
SEWER SERVICE	N/A	S SERV S SERV S SERV
WATER LINE	XW XW XW XW	W W W W W
WATER SERVICE	N/A	W SERV W SERV W SERV
WATER LINE (RECORD)	W(R) W(R) W(R)	N/A
RAW SALTWATER LINE	SRAW SRAW SRAW	N/A
FUEL/GAS LINE	G G G G	N/A
FENCE	X X X X X	
GUARD RAIL		N/A
MAJOR CONTOUR		
MINOR CONTOUR		
POSSIBLE UNKNOWN LINE DETECTED BY GPR	? ? ?	N/A

NOTE: LINE WEIGHTS VARY BETWEEN SHEETS

FEATURE DESCRIPTION	EXISTING	PROPOSED
UTILITY POLE		
GUY ANCHOR		N/A
CONTROL POINT (AS NOTED)		N/A
FOUND MONUMENT (AS NOTED)		N/A
STORM DRAIN MANHOLE		
STORM CATCH BASIN		
STORM CLEANOUT	CO	CO
SANITARY SEWER MANHOLE	S	
SANITARY SEWER CLEANOUT	CO	CO
BOLLARD/POST (TYPE AS NOTED)		
WATER VALVE	WV	
FIRE HYDRANT		
LIGHT POLE		N/A
ELECTRICAL METER	EM	N/A
SIGN		N/A
TEST PIT	TP	N/A
ROCK WALL		

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
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PROJECT #:222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
749th
JOEL P. TEUNE
121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: LEGEND

A2

SHEET: 02 of 29

GENERAL NOTE

ALL THE SPECIFICATIONS CONTAINED ON SHEETS ARE ASSOCIATED WITH THE CONSTRUCTION OF THE _____ ONLY. IN FOR THESE SPECIFICATIONS THE TERM "CONTRACTOR" REFERS TO THE PURCHASER OR A HIRED SUBCONTRACTOR FOR THE PURCHASER.

CONSTRUCTION SURVEYING

1.0 SCOPE OF WORK

A. THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS NECESSARY TO PERFORM ALL SURVEYING AND STAKING ESSENTIAL FOR THE COMPLETION OF CONSTRUCTION IN CONFORMANCE WITH THE PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PERFORM ALL THE NECESSARY WORK AND CALCULATIONS REQUIRED TO ACCOMPLISH THE WORK IN ACCORDANCE WITH THESE SPECIFICATIONS AND OTHER PORTIONS OF THE CONTRACT DOCUMENTS.

B. THIS SECTION IS INTENDED TO ESTABLISH A STANDARD MINIMUM LEVEL OF ACCEPTABLE FIELD SURVEY SPECIFICATIONS AND PROCEDURES TO PROPERLY CONTROL CONSTRUCTION PROJECTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURVEY METHODS AND PROCEDURES ARE FOLLOWED. ANY ERRORS RESULTING FROM THE SURVEY SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRACTOR AND AT NO ADDITIONAL EXPENSE TO THE OWNER. ANY METHOD CONFLICTING WITH THESE SURVEY SPECIFICATIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO ITS USE. ALL SURVEY WORK PERFORMED SHALL BE UNDER THE DIRECT SUPERVISION OF AN ALASKAN REGISTERED PROFESSIONAL LAND SURVEYOR.

1.1 PROJECT CONTROL

A. THE OWNER HAS PROVIDED REFERENCE HORIZONTAL AND VERTICAL CONTROL DATA TO FACILITATE CONSTRUCTION STAKING. HOWEVER IT IS THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH AND CHECK ALL SURVEY CONTROL PRIOR TO ANY STAKING ACTIVITY TO ENSURE THE PROJECT IS PROPERLY LOCATED AND CONSTRUCTED ACCORDING TO THE CONSTRUCTION DOCUMENTS. IF DISCREPANCIES ARE FOUND, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING AND PROTECTING ALL LINE STAKES, GRADE STAKES, REFERENCE POINTS, AND HUBS. IN THE EVENT OF THEIR LOSS OR DESTRUCTION, THE CONTRACTOR SHALL PAY ALL COSTS FOR THEIR REPLACEMENT. THE CONTRACTOR SHALL REPLACE ANY MONUMENT THAT EXISTS WITHIN THE CONSTRUCTION LIMITS, IF IT IS DISTURBED OR REMOVED DUE TO CONSTRUCTION PROJECT ACTIVITY. ALL MONUMENTS DISTURBED OR REMOVED SHALL BE REPLACED WITH THE SAME TYPE MONUMENT OR A MONUMENT APPROVED BY THE ENGINEER.

B. HORIZONTAL CONTROL ACCURACY

1. THE MAXIMUM PERMISSIBLE LINEAR ERROR ALLOWED IN ESTABLISHING HORIZONTAL CONTROL IS 1:5000 FEET. THE MAXIMUM ERROR ALLOWED IN UNADJUSTED ANGULAR CLOSURE SHALL BE CALCULATED BY THE FORMULA "30 X THE SQUARE ROOT OF N". THE TERM "N" SIGNIFIES THE NUMBER OF TRANSIT SET-UPS IN THE TRAVERSE AND "30" SIGNIFIES THIRTY SECONDS.

C. VERTICAL CONTROL

1. ELEVATIONS SHALL ORIGINATE FROM A NGS VERTICAL LEVEL LINE SYSTEM. ALL LEVEL CIRCUITS RUN TO ESTABLISH TEMPORARY BENCH MARKS SHALL HAVE AN ACCURACY NO LESS THAN THE VALUE COMPUTED BY THE EQUATION (0.03 FEET X THE SQUARE ROOT OF THE DISTANCE IN MILES). FORESIGHTS AND BACKSIGHTS SHALL BE BALANCED. THE MAXIMUM SIGHTING DISTANCE SHALL NOT EXCEED 300 FEET. ALL LEVELING CIRCUITS ESTABLISHING TBM'S WILL BE ADJUSTED UTILIZING RECOGNIZED STANDARD SURVEYING ADJUSTMENT METHODS. SIDE SHOTS TO ESTABLISH AN ELEVATION ON TBM'S WILL NOT BE ALLOWED.

2. A MINIMUM OF TWO KNOWN BENCH MARKS WILL BE UTILIZED WHEN ESTABLISHING TBM'S TO VERIFY CORRECT ELEVATION INFORMATION. A SUFFICIENT NUMBER OF TBM'S SHALL BE SET TO CONTROL A PROJECT WITH A MAXIMUM SPACING OF 800 FEET BETWEEN MARKS. A TBM TYPICALLY SHOULD NOT BE GREATER THAN 200 FEET OUTSIDE THE CONSTRUCTION LIMITS OF THE PROJECT. ALL TBM'S SHALL BE LOCATED AND BE COMPRISED OF SUFFICIENT MATERIALS SUCH THAT THEIR INTEGRITY WILL NOT BE COMPROMISED THROUGHOUT THE LIFE OF THE PROJECT.

1.2 CLEARING AND GRUBBING STAKES

A. THE CONTRACTOR SHALL STAKE THE CLEARING AND GRUBBING LIMITS FOR THE OWNERS REVIEW AND APPROVAL.

B. DISTANCES SHALL BE MEASURED TO THE NEAREST FOOT AND STANDARD LATH/FLAGGING SHALL BE PLACED TO CLEARLY DESIGNATE THE INTENDED LIMITS. INTERVALS FOR PLACEMENT OF LATH/FLAGGING SHALL VARY BASED ON THE TERRAIN AND FOILAGE DENSITY, SPACING OF 50 TO 100 FEET WILL GENERALLY BE ADEQUATE.

1.3 VERTICAL CUT STAKES, GRADE STAKES, AND FINISHING STAKES

A. VERTICAL CUT/FILL STAKES MAY BE USED WHERE THE DESIGN PRISM DOES NOT CONTAIN SLOPED SHOULDERS AND DITCHES AND A SLOPE STAKE WOULD NOT BE NEEDED. THE REFERENCE POINT SHALL BE A STANDARD WOOD HUB ACCOMPANIED BY A MINIMUM 3 FOOT LENGTH LATH WITH THE CUT, DISTANCE TO THE CUT POINT, DESCRIPTION OF THE POINT BEING CUT TO, AND A DISTANCE FROM CONSTRUCTION CENTERLINE TO THE STAKE. THE CENTERLINE STATION SHALL BE WRITTEN ON THE BACK OF THE LATH. CUTS SHALL BE GIVEN TO THE NEAREST 0.1 FEET. THE STAKES SHALL BE SET AT THE SAME POINTS THAT WERE IDENTIFIED FOR THE SLOPE STAKES IN SUBSECTION 1.8. A RECORD OF THE STAKING ELEVATIONS, THE DESIGNED GRADE, THE LOCATION OF STAKES, THE CENTERLINE STATION OF THE STAKE AND FEATURE WHICH IS BEING STAKED SHALL BE MADE IN THE SURVEY FIELD BOOK.

B. FINISH GRADE HUBS (BLUETOPS) SHALL BE SET TO VERIFY THE DESIGN PRISM IS AT THE CORRECT ELEVATION PRIOR TO THE PLACEMENT OF FINAL LIFT COURSE MATERIAL. WOODEN HUBS, PAINTED OR TOPPED WITH COLORED WHISKERS SHALL BE SET AT THE TOP OF CLASSIFIED FILL, WITHIN 0.2 FEET TOLERANCE. FOR THE LTF AREA STAKED HUBS WILL BE SET ON A 50 FOOT GRID PATTERN UNLESS APPROVED OTHERWISE BY THE ENGINEER. THE FIELD BOOK SHALL CONTAIN THE GRADING POINT NUMBER, THE DESIGN FINISH GRADE ELEVATION OF THE POINT STAKED, THE ELEVATION SHOT THE HUB WAS SET AT, AND A DESCRIPTION OF THE POINT BEING STAKED.

1.4 DRAINAGE FACILITY STAKING

A. THE LOCATION, TYPE, SIZE, LENGTH AND INVERT ELEVATIONS FOR DRAINAGE FACILITIES SHALL BE GIVEN ON THE CONSTRUCTION PLAN DRAWINGS. MINOR CHANGES IN LOCATIONS AND GRADES TO MEET EXISTING FIELD CONDITIONS MAY BE MADE WHERE NECESSARY, BUT ONLY WITH THE APPROVAL OF THE ENGINEER. IF A DISCREPANCY LARGE ENOUGH TO ADVERSELY AFFECT THE PLANNED DESIGN IS DISCOVERED THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY AND ALL GRADE STAKING ACTIVITY SHALL CEASE UNTIL FURTHER NOTICE.

B. A GROUND LINE PROFILE SHALL BE RUN PRIOR TO EXCAVATION OF DRAINAGE FACILITIES. THE GROUND LINE PROFILE SHALL BE THE ELEVATION OF THE GROUND DIRECTLY ABOVE THE CENTERLINE OF THE PIPE BEFORE TRENCHING OCCURS. THE CONTRACTOR SHALL STAKE THE ALIGNMENT OF PIPE, LOCATION OF STRUCTURES, AND REFERENCE GRADES FROM WHICH THE SYSTEM CAN BE BUILT.

C. DIKES/DITCHES SHALL BE STAKED TO THE ALIGNMENT, GRADE AND SLOPES SHOWN ON THE PLANS. DIKES/DITCHES SHALL BE SLOPE STAKED TO THE SHOULDER OR FLOW LINE OF THE IMPROVEMENT WITH DISTANCES REFERENCED TO THE IMPROVEMENT CENTERLINE.

1.5 MAJOR STRUCTURE STAKING

A. CONSTRUCTION SURVEY PROCEDURES SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO ANY CONSTRUCTION STAKING. HIS REVIEW AND APPROVAL IS NECESSARY FOR MAJOR STRUCTURES SUCH AS BRIDGES, DOCKS, PILING, DRAINAGE FACILITIES, AND LARGE BUILDINGS.

1.6 MISCELLANEOUS CONSTRUCTION STAKING

A. THE CONTRACTOR SHALL PROVIDE SUFFICIENT STAKES FOR THE ADEQUATE CONTROL OF ALL STRUCTURES AND INCIDENTAL CONSTRUCTION NOT SPECIFICALLY COVERED ABOVE. A STAKING DIAGRAM WITH RESPECT TO CENTERLINE AND MEASUREMENTS FOR PAY QUANTITIES SHALL BE MAINTAINED IN THE FIELD NOTES. OTHER ITEMS SUCH AS HORIZONTAL AND VERTICAL CONTROL SHALL BE SHOWN IN THE FIELD BOOK AND SHALL BE GOVERNED BY PROCEDURES ESTABLISHED IN PREVIOUS ARTICLES OF THIS SPECIFICATION.

FIELD ENGINEERING

1.1 DESCRIPTION OF WORK

THE INTENT OF THIS SECTION IS TO DELINEATE THE RESPONSIBILITY FOR DIFFERENT ASPECTS OF THE CONSTRUCTION SURVEYING ASSOCIATED WITH THE WORK.

1.2 SURVEY REFERENCE POINTS

A. ALL ELEVATIONS SHOWN ON THE PLANS ARE REFERENCED TO MEAN LOWER LOW WATER TIDE DATUM, BENCHMARKS FOR WHICH ARE ALSO OF RECORD.

B. ALL SURVEY AND LAYOUT WORK SHALL BE PERFORMED BY THE CONTRACTOR AS PART OF THE WORK. THE CONTRACTOR SHALL TRANSFER LINES AND GRADES FROM EXISTING CONTROL TO HIS OWN WORK AT HIS OWN EXPENSE.

PROJECT DATA SUBMITTALS

1.0 GENERAL

THE CONTRACTOR SHALL ASSEMBLE AND SUBMIT, TO THE ENGINEER, PROJECT DATA AND SAMPLES AS SPECIFIED IN EACH SPECIFICATION SECTION. THE PROJECT DATA AND SAMPLES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND CHECKING TO DETERMINE CONFORMANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS. THE REVIEW AND CHECKING BY THE ENGINEER WILL BE SPECIFICALLY LIMITED TO THE PROJECT DATA AND SAMPLES SPECIFIED IN THESE SPECIFICATIONS.

1.1 PROJECT DATA

PROJECT DATA AND SAMPLES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF PURCHASE ORDERS FOR EQUIPMENT AND MATERIALS. EQUIPMENT AND MATERIALS FOR WHICH PROJECT DATA AND SAMPLES ARE SPECIFIED, WHICH ARE CONSTRUCTED, INSTALLED OR INCORPORATED PRIOR TO REVIEW, CHECK AND APPROVAL BY THE ENGINEER MAY NOT BE ACCEPTED BY THE OWNER.

THE REVIEW BY THE ENGINEER OF PRODUCT DATA OR OTHER SUBMITTALS IS ONLY FOR CONFORMANCE WITH THE GENERAL DESIGN CONCEPT OF THE PROJECT AND DOES NOT EXTEND TO CONSIDERATION OF STRUCTURAL INTEGRITY, SAFETY, DETAILED COMPLIANCE WITH CONTRACT REQUIREMENTS OR ANY OTHER OBLIGATION OF THE CONTRACTOR. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR PREPARATION AND REVIEW OF ALL SHOP DRAWINGS CONFIRMING AND CORRELATING ALL DIMENSIONS; FABRICATING AND CONSTRUCTION TECHNIQUES; COORDINATING HIS OR HER WORK WITH THAT OF ALL OTHER TRADES; AND THE SATISFACTORY PERFORMANCE OF HIS OR HER ENTIRE WORK IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE REVIEW OF PROJECT DATA BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER OBLIGATION FULLY TO PERFORM ALL CONTRACT REQUIREMENTS, NOR SHALL SUCH REVIEW GIVE RISE TO ANY RIGHT OF ACTION OR SUIT IN FAVOR OF THE CONTRACTOR OR THIRD PERSONS, AGAINST THE ENGINEER OR THE OWNER.

1.2 MINIMUM REQUIREMENTS

A) SHOP AND SUPPLEMENTAL DRAWINGS SHALL BE ASSEMBLED, LABELED WITH REFERENCE TO SPECIFICATION SECTION AND/OR DRAWING NUMBER, DETAIL NUMBER AND LOCATION WITH THE DELIVERY DATE AND ALL PERTINENT DATA NEEDED TO FULLY DESCRIBE THE ELEMENT OR ITEM OF THE WORK.

B) SHOP AND SUPPLEMENTAL DRAWINGS SHALL INDICATE ALL ROUGH_IN, BACKING OR BLOCKING, SPACE REQUIREMENTS AND THAT FIELD MEASUREMENTS HAVE BEEN VERIFIED FOR CONFORMITY TO THE CONTRACT DOCUMENTS, CODE REQUIREMENTS, WHERE APPLICABLE, AND NECESSARY COORDINATION WITH ANY OTHER PARTS OF THE WORK.

C) THE CONTRACTOR SHALL SIGN THE DRAWINGS OR PROJECT DATA TRANSMITTAL TO CERTIFY THAT HE OR SHE HAS REVIEWED THE SHOP AND SUPPLEMENTAL DRAWINGS SUBMITTAL, VERIFIED ALL FIELD MEASUREMENTS AND COMPLIED WITH ALL APPLICABLE PROVISIONS OF THE CONTRACT DOCUMENTS.

1.3 DISTRIBUTION

THE CONTRACTOR SHALL PROVIDE TWO COPIES OF PROJECT DATA AND SHOP AND SUPPLEMENTAL DRAWINGS. THE ENGINEER SHALL RETURN ONE MARKED COPY TO THE CONTRACTOR.

1.4 LIMITATION OF SUBMITTALS AND REVIEWS

THE CONTRACTOR SHALL SUBMIT PROJECT DATA AND SAMPLES FOR EQUIPMENT AND MATERIALS WHICH MEET OR EXCEED THE REQUIREMENTS OF THE SPECIFICATIONS. ACCORDINGLY, IT IS CONSIDERED REASONABLE THAT THE CONTRACTOR PROVIDE PROJECT DATA AND SAMPLES WHICH ARE COMPLETE AND ACCEPTABLE, IN THE JUDGMENT OF THE ENGINEER, BY THE SECOND SUBMISSION OF SPECIFIC PROJECT DATA AND SAMPLES. THE OWNER RESERVES THE RIGHT TO AND WILL WITHHOLD SUCH AMOUNT FROM PAYMENTS DUE TO THE CONTRACTOR TO COVER THE COST OF REVIEW BY THE ENGINEER OF THIRD AND SUBSEQUENT SUBMISSIONS OF SPECIFIC PROJECT DATA AND SAMPLES.

THE CONTRACTOR'S PROGRESS SCHEDULE SHALL INCLUDE TIME FOR THE SUBMITTAL OF PROJECT DATA AND SAMPLES AND FOR THE RESUBMITTAL OF PROJECT DATA AND SAMPLES REJECTED BY THE ENGINEER.

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #:222321.10

R&M ENGINEERING-KETCHIKAN, INC.
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PH: 907.225.7187
AELC 576

STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: SPECIFICATIONS

A3

SHEET: 03 of 29

SUBSURFACE CONDITIONS

1.0 SOIL REPORTS

A. ANY DATA ON SOIL AND/OR SUBSURFACE CONDITIONS SHOWN IN THE PLANS OR SPECIFICATIONS IS NOT TO BE TAKEN AS A REPRESENTATION, BUT IS BASED ON LIMITED INFORMATION AND IS AT BEST ONLY AN OPINION; CONSEQUENTLY, SUCH DATA CANNOT BE CONSIDERED PRECISE OR COMPLETE AND THERE IS NO GUARANTEE AS TO ITS COMPLETENESS, ACCURACY, OR PRECISION.

B. A LIMITED SOILS INVESTIGATION WAS PERFORMED FOR THIS PROJECT TO DETERMINE GENERAL CHARACTERISTICS OF THE EXISTING SUBSURFACE WHILE PERFORMING A WETLANDS DETERMINATION FOR THE SITE. DUE TO LIMITED PROJECT BUDGET, THE SCOPE WAS LIMITED AND MAY NOT HAVE ADEQUATELY ADDRESSED THE SUBSURFACE CONDITIONS IN ALL AREAS.

C. ADDITIONAL INVESTIGATION:

1. CONTRACTOR SHOULD VISIT THE SITE AND ACQUAINT HIMSELF WITH SITE CONDITIONS BEFORE SUBMITTING A BID, AND THE SUBMISSION OF A BID WILL BE PRIMA FACIE EVIDENCE THAT HE HAS DONE SO.

2. PRIOR TO BIDDING, CONTRACTOR MAY MAKE HIS OWN SUBSURFACE INVESTIGATIONS TO SATISFY HIMSELF WITH SITE AND SUBSURFACE CONDITIONS.

EARTHWORK

1.0 EXCAVATION

ALL EXCAVATION IS UNCLASSIFIED. THE TERMS EARTHWORK OR EXCAVATION SHALL INCLUDE ALL MATERIALS EXCAVATED OR REMOVED REGARDLESS OF MATERIAL CHARACTERISTICS. THE CONTRACTOR SHALL MAKE HIS OWN ESTIMATE OF THE KIND AND EXTENT OF MATERIAL, WHICH WILL BE ENCOUNTERED IN THE EXCAVATION.

1.1 ROCK PRODUCTS

A SHOT ROCK EMBANKMENT

SHOT ROCK EMBANKMENT SHALL BE NATURALLY APPEARING BLASTED ROCK FROM A QUARRY. IT SHALL BE FREE OF MUCK, PEAT, FROZEN MATERIAL, ROOTS, SOD, OR OTHER DELETERIOUS MATTER. IT SHALL GENERALLY BE 6" MINUS IN SIZE.

B DRAIN ROCK

GRAVEL CONSISTING OF CRUSHED OR NATURALLY OCCURRING GRANULAR MATERIAL CONTAINING NOT MORE THAN 1% CLAY LUMPS OR OTHER READILY DECOMPOSED MATERIAL (AASHTO T 112). MEET THE GRADING REQUIREMENTS OF THE FOLLOWING GRADATION:

U.S. STANDARD SIEVE SIZE	PERCENT PASSING BY WEIGHT
3"	100
1"	0–10
No. 200	0–5

1.2 PLACEMENT AND COMPACTION REQUIREMENTS

A. SHOT ROCK EMBANKMENT

1) EMBANKMENT SHALL BE PLACED IN LIFTS WHOSE LOOSE THICKNESS DOES NOT EXCEED 2 FEET. MATERIAL SHALL BE DUMPED ON THE EXISTING FILL AND DOZED INTO PLACE. IN ADDITION TO MECHANICAL COMPACTION, IT SHALL BE COMPACTED BY ROUTING THE HAULING AND PLACING EQUIPMENT OVER THE ENTIRE AREA PRIOR TO PLACING THE NEXT LIFT.

STORM DRAINAGE

1.1 PRODUCTS

A. BEDDING MATERIALS

PIPE BEDDING MATERIAL SHALL CONSIST OF SCREENED SHOT ROCK MATERIAL FROM A QUARRY. IT SHALL BE FREE OF MUCK, FROZEN MATERIALS, ROOTS, SOD, OR OTHER DELETERIOUS MATTER. IT SHALL BE GENERAL WELL GRADED 2" MINUS MATERIAL.

B. SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE

1) TWELVE THROUGH THIRTY–SIX INCH DIAMETER SHALL CONFORM TO AASHTO M294 TYPE S.

2) COUPLING BANDS SHALL COVER AT LEAST ONE FULL CORRUGATION OF EACH SECTION OF PIPE.

3) PIPE FITTINGS SHALL CONFORM TO AASHTO M252 OR AASHTO M294.

1.2 COMPACTION

A. BEDDING FOR CORRUGATED STEEL/PLASTIC PIPE

1) MATERIAL FOR SIDEFILL AROUND AND TO THE CROWN ELEVATION OF CORRUGATED PLASTIC PIPE SHALL BE SELECTED AND SHALL NOT CONTAIN STONES LARGER THAN 3 INCHES IN GREATEST DIMENSION, FROZEN LUMPS, ROOTS, OR MOISTURE IN EXCESS OF THAT PERMITTING THOROUGH COMPACTION.

2) MATERIAL PLACED WITHIN THE PIPE COMPACTION ZONE SHALL BE BROUGHT UP SIMULTANEOUSLY ON EACH SIDE OF THE PIPE TO THE TOP OF THE PIPE AND COMPACTED UNTIL THE SUBGRADE CAN PASS A STANDARD HEAL TOE TEST.

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: SPECIFICATIONS

A4

SHEET: 04 of 29

SCALE 1"=50'

THIS DRAWING MAY BE REDUCED, VERIFY SCALE BEFORE USING

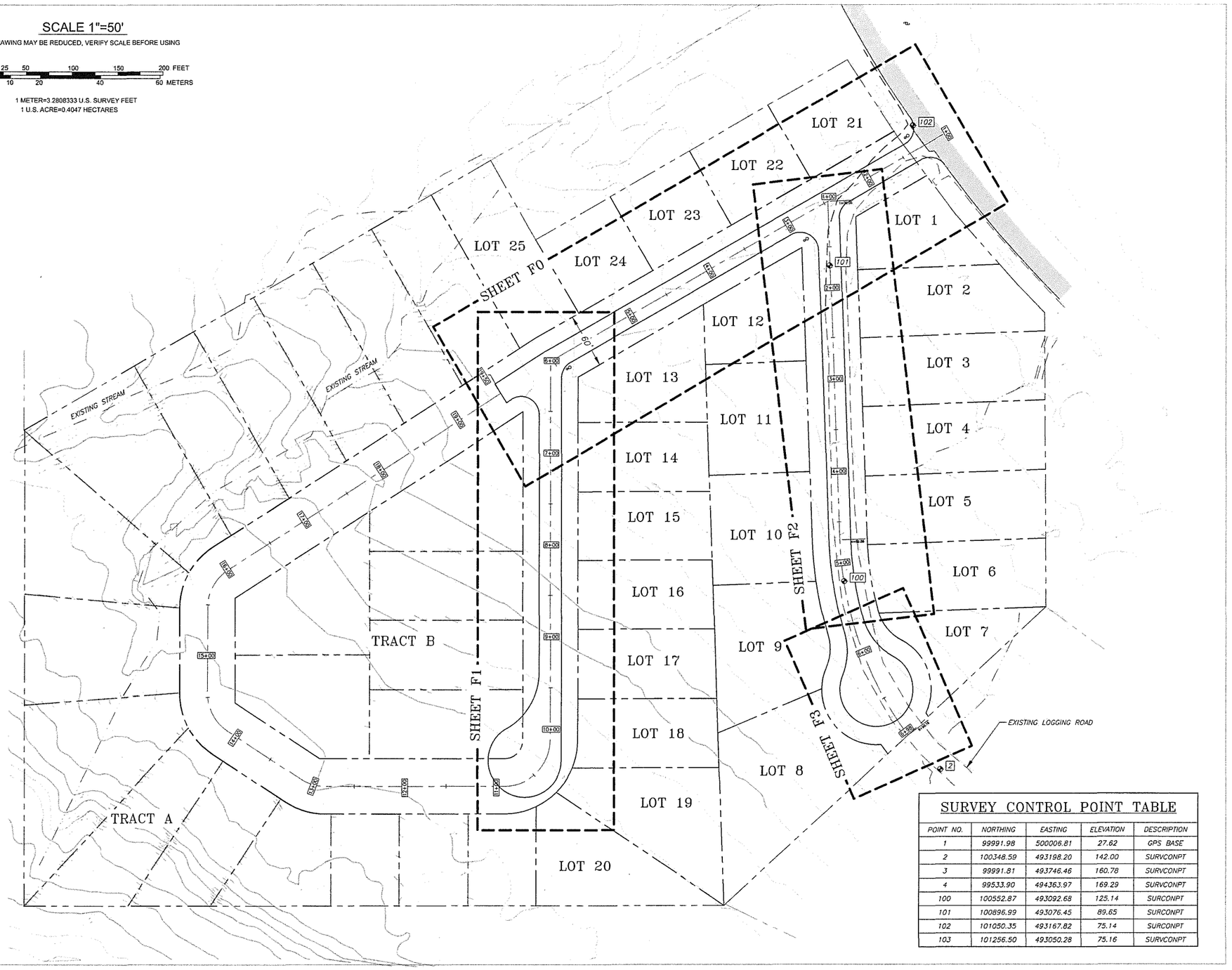
0 25 50 100 150 200 FEET

0 10 20 40 60 METERS

1 METER=3.2808333 U.S. SURVEY FEET

1 U.S. ACRE=0.4047 HECTARES

MAGNETIC 18° 20'



SURVEY CONTROL POINT TABLE

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	99991.98	500006.81	27.62	GPS BASE
2	100348.59	493198.20	142.00	SURVCONPT
3	99991.81	493746.46	160.78	SURVCONPT
4	99533.90	494363.97	169.29	SURVCONPT
100	100552.87	493092.68	125.14	SURCONPT
101	100896.99	493076.45	89.65	SURCONPT
102	101050.35	493167.82	75.14	SURCONPT
103	101256.50	493050.28	75.16	SURVCONPT

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STATE OF ALASKA 49th JOEL P. TEUNE 121948 REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: SHEET LAYOUT AND SURVEY CONTROL

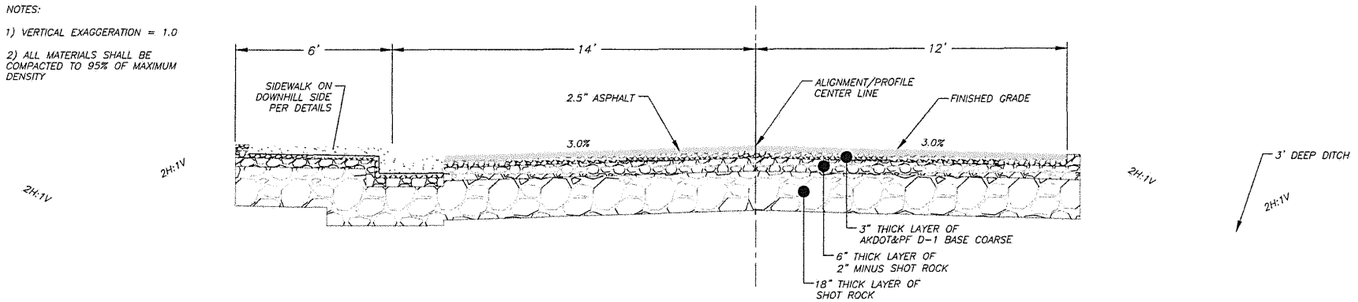
A5

SHEET: 05 of 29

NOTES:

1) VERTICAL EXAGGERATION = 1.0

2) ALL MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY



1/B1 TYPICAL ROAD SECTION
NOT TO SCALE

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS:
35%

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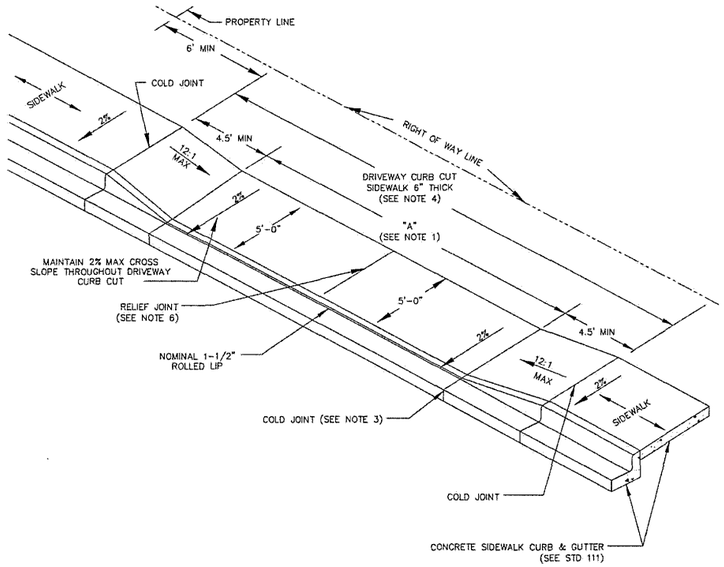
STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TYPICAL SECTIONS

B1

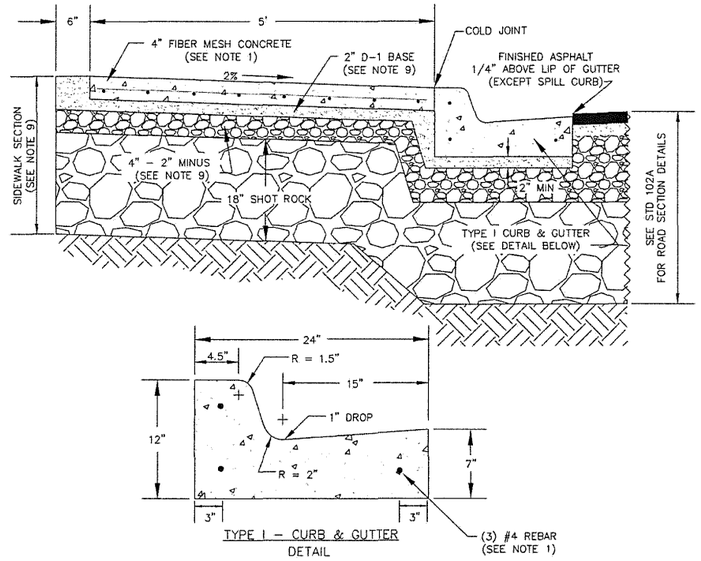
SHEET:
06 of 29



NOTES

1. "A" EQUALS WIDTH OF DRIVEWAY AT PROPERTY LINE. MAXIMUM WIDTH SHALL BE 24' FOR SINGLE FAMILY RESIDENCES AND 32' FOR COMMERCIAL FACILITIES OR COMBINED DRIVEWAYS. DRIVEWAYS MAY NOT BE CONSTRUCTED WITHIN 6' OF THE PROPERTY LINE OR 40' FROM THE EDGE OF PAVEMENT AT INTERSECTIONS.
2. ALL CONCRETE SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATION 03303 – SIDEWALK CURB AND GUTTER. THE CURING COMPOUND CONCRETE INTERNATIONAL CORPORATION ASHFORD FORMULA OR APPROVED EQUAL SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS.
3. COLD JOINT REQUIRED BETWEEN SIDEWALK AND DRIVEWAY AND BETWEEN SIDEWALK AND CURB.
4. ALL CONCRETE WITHIN THE DRIVEWAY CURB CUT SHALL BE A MINIMUM 6" THICK AND SHALL BE POURED ON A 4" BASE OF D-1 COMPACTED TO 95% OF ITS MAXIMUM DENSITY.
5. 6"x 6" #10 GAUGE WIRE MESH REINFORCEMENT INSTALLED AT MID-DEPTH OR #4 REBAR SPACED APPROPRIATELY MAY BE SUBSTITUTED FOR FIBER MESH REINFORCED CONCRETE. ALL STEEL MUST HAVE A MINIMUM OF 2" OF CONCRETE COVER.
6. RELIEF JOINT REQUIRED IF "A" IS GREATER THAN 15'.

1/E1 DRIVE WAY CURB CUT DETAIL
NOT TO SCALE



NOTES:

1. CONCRETE SHALL BE CLASS A, FIBER MESH REINFORCED IN ACCORDANCE WITH CBJ STANDARD SPECIFICATION SECTION 03303 – SIDEWALK, CURB AND GUTTER. REBAR IN CURB AND WIRE MESH IN SIDEWALK IS ALLOWED AS SHOWN.
2. CONCRETE INTERNATIONAL CORPORATION ASHFORD FORMULA OR APPROVED EQUAL SHALL BE APPLIED AS A CURING COMPOUND. APPLICATION SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATIONS.
3. COLD JOINTS ARE REQUIRED EVERY 10' MAXIMUM. ALL JOINTS AND SEAMS SHALL BE EDGED.
4. STEEL TROWELING FINISH REQUIRED PRIOR TO BROOM FINISHING ON ALL SURFACES.
5. CURB AND GUTTER TRANSITION DESIGN TO BE APPROVED BY THE ENGINEER.
6. TYPE II AND TYPE III CURB TO BE USED AS DIRECTED BY THE ENGINEER IN ACCORDANCE TO CBJ STANDARD 104B.
7. ALL REINFORCING STEEL MUST HAVE A MINIMUM OF 2" OF CONCRETE COVER WHEN SUBSTITUTED FOR FIBER MESH.
8. WHEELCHAIR ACCESS RAMPS SHALL BE REQUIRED ON ALL NEW SIDEWALK CONSTRUCTION AT CROSSWALKS AND INTERSECTIONS. ACCESS RAMPS TO BE CONSTRUCTED IN ACCORDANCE TO CBJ STANDARD 106.
9. 4" CONCRETE SIDEWALK SUBBASE SHALL BE 2" D-1, 4" 2" MINUS AND 18" OF SHOT ROCK. 2" ASPHALT SIDEWALK SUBBASE SHALL BE 2" D-1, 6" 2" MINUS AND 18" SHOT ROCK.
10. MINIMUM LONGITUDINAL SLOPE FOR CURB AND GUTTER SHALL BE NO LESS THAN 0.5%.

2/E1 CONCRETE SIDEWALK, TYPE I CURB, AND GUTTER DETAIL
NOT TO SCALE

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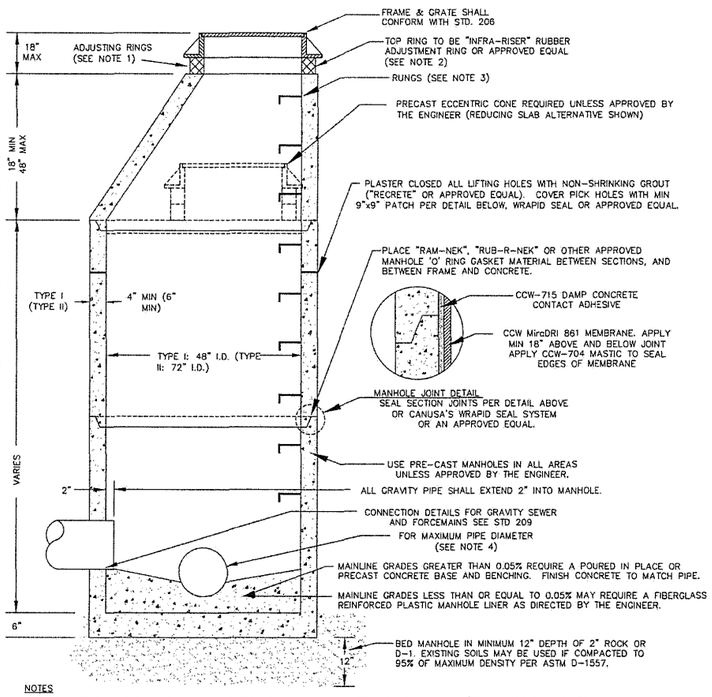
STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: DETAILS

E1

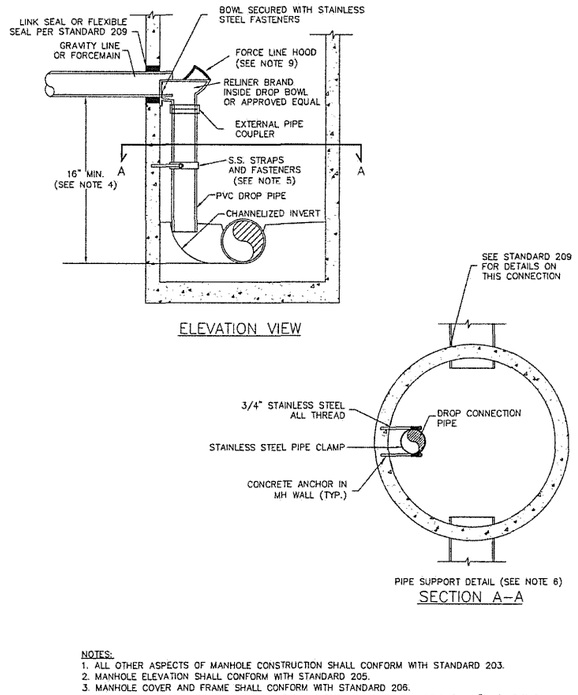
SHEET: 07 of 29



NOTES

1. USE NO MORE THAN ONE 4" ADJUSTING RING FOR NEW CONSTRUCTION OR UNPAVED ROADS. USE NO MORE THAN THREE 4" RINGS FOR RECONSTRUCTION OF PAVED OR CHIPSEAL ROADS. TOP ADJUSTING RINGS SHALL BE AN "INFRA-RISER" RUBBER ADJUSTING RING OR APPROVED EQUAL. MATCH FINAL GRADE PER TABLE CBJ STANDARD 205.
2. USE "PL POLYURETHANE SELF-LEVELING CONCRETE CRACK SEALANT" OR APPROVED EQUAL FOR "INFRA-RISER" INSTALLATION.
3. RUNGS TO BE PLACED 12" O.C. ON UNOBSTRUCTED SIDE OF MANHOLE. LAST RUNG SHALL BE 18" MAX FROM BOTTOM OF MANHOLE, AND TOP RUNG SHALL BE 6" MAXIMUM FROM TOP OF CONE. IF UNOBSTRUCTED SIDE NOT AVAILABLE, LAST RUNG SHALL BE PLACED 6" OVER SMALLEST PIPE. RUNGS SHALL BE LANE POLYETHYLENE 14" LADDER STEPS OR AN APPROVED EQUAL.
4. MAXIMUM PIPE DIAMETER SHALL BE 20" FOR A TYPE I MANHOLE. FOR LARGER PIPES, USE A TYPE II MANHOLE. MANHOLES INTERSECTED BY MORE THAN 2 PIPES, 15" DIAMETER OR LARGER, USE A TYPE II MANHOLE. MINIMUM MAINLINE DIAMETER SHALL BE 8".
5. REFER TO A.S.T.M. C-478 FOR DESIGN REQUIREMENTS AND C-478-69 FOR MINIMUM STEEL FOR BARREL AND BASE. BLOCKOUTS SHALL BE FORMED.
6. IF MANHOLE IS WITHIN A ROADWAY, COMPACTION TESTS MUST BE TAKEN ON BACKFILL EVERY 3', DENSITY SHALL BE 95% OF MAXIMUM PROCTOR DENSITY.
7. MANHOLE FRAMES MAY BE RAISED TO ACCOMMODATE PAVEMENT OVERLAYS PROVIDED THE DISTANCE FROM THE TOP OF THE FRAME TO THE FIRST RUNG IS LESS THAN 36".

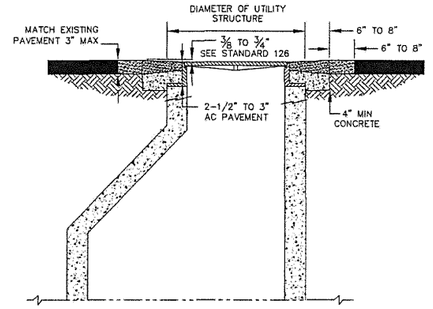
1/E2 SANITARY SEWER MANHOLE, TYPE I&II DETAIL
NOT TO SCALE



NOTES:

1. ALL OTHER ASPECTS OF MANHOLE CONSTRUCTION SHALL CONFORM WITH STANDARD 203.
2. MANHOLE ELEVATION SHALL CONFORM WITH STANDARD 205.
3. MANHOLE COVER AND FRAME SHALL CONFORM WITH STANDARD 206.
4. DROP CONNECTIONS ARE REQUIRED IF INFLOW INVERT ELEVATION IS MORE THAN 16" ABOVE THE OUTLET INVERT ELEVATION WHERE INVERT ELEVATIONS ARE LESS THAN 16" APART, A CHANNELIZED INVERT SHALL BE FORMED TO A MAXIMUM OF ONE INFLOW PIPE DIAMETER BELOW THE INFLOW PIPE INVERT.
5. STAINLESS STEEL PIPE SUPPORTS SHALL BE INSTALLED 3'-0" ON CENTER ON THE VERTICAL DROP PIPE.
6. A RELINER BRAND STAINLESS ADJUSTABLE CLAMPING BRACKET MAY BE USED IN PLACE OF THE ILLUSTRATED PIPE SUPPORT.
7. DROP PIPING SHALL BE THE DIAMETER SPECIFIED BY THE MANUFACTURER OF THE DROP ASSEMBLY.
8. IF MORE THAN ONE DROP CONNECTION IS MADE, INSTALL A MIN. 6' DIAMETER MANHOLE.
9. FORCE LINE HOOD FOR INSIDE DROP BOWL, RELINER BRAND OR APPROVED EQUAL.

2/E2 SANITARY SEWER DROP MANHOLE
NOT TO SCALE



MANHOLE LID
BELOW GRADE

MANHOLE DEPTHS BELOW GRADE

LOCATION OF MANHOLE	DEPTH (D)
PAVED STREETS (SEE NOTE 1)	3/8"-3/4"
BACKYARDS, GRAVEL STREETS, AND TRAVELED ALLEY AREAS	6" MAX

NOTES:

1. MANHOLE LID MUST CONFORM TO THE GRADE AND CROSS SLOPE OF THE STREET. SEE STANDARD 126.
2. MEASUREMENT SHALL BE TAKEN FROM THE TOP OF THE FRAME. SEE STANDARD 206A/206B
3. FOR BACKYARDS, GRAVEL STREETS AND TRAVELED ALLEY AREAS, BACKFILL TO MATCH EXISTING GRADE.
4. SANITARY SEWER MAIN CLEANOUT ELEVATIONS SHALL CONFORM TO THIS STANDARD.

3/E2 MANHOLE HEIGHT DETAIL
NOT TO SCALE

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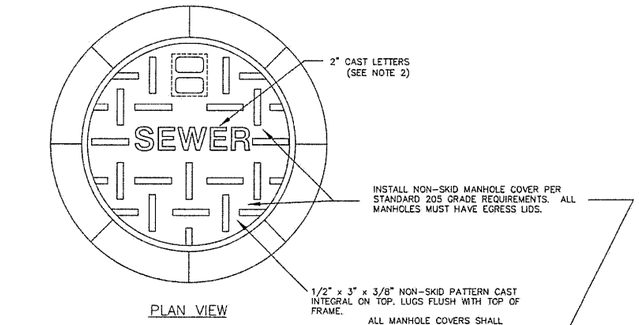
STATE OF ALASKA 49th
JOEL P. TEUNE 12194
REGISTERED PROFESSIONAL ENGINEER

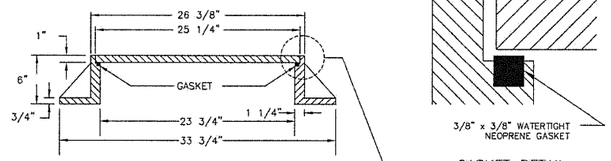
SHEET DESCRIPTION: DETAILS

E2

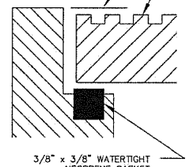
SHEET: 08 of 29



PLAN VIEW



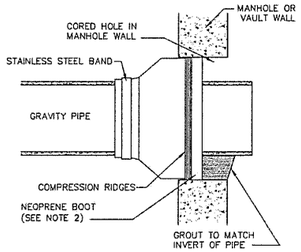
ELEVATION VIEW



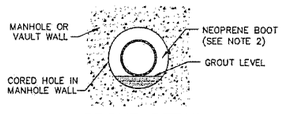
GASKET DETAIL

NOTES:
1. FRAME MUST BE MACHINED TO FIT WATERTIGHT NEOPRENE GASKET.
2. MANHOLE COVER SHALL BE WATER TIGHT WITH NO HOLES, SHALL HAVE THE WORD "SEWER", "WATER" OR "STORM DRAIN" CAST IN COVER AND SHALL BE PROVIDED WITH AN INTEGRAL POCKET LIFT HANDLE.
3. FRAME AND MANHOLE COVER DIMENSIONS SHALL BE IN ACCORDANCE WITH OLYMPIC CONSTRUCTION CASTINGS NO. MH30A WITH EGRESS LID, OR AN APPROVED EQUAL.
4. FRAME AND MANHOLE COVER SHALL BE DUCTILE OR CAST IRON AND A TYPE THAT WILL NOT CREATE A HAZARD FOR BICYCLE TRAFFIC.
5. IF MAINLINE IS 20" OR GREATER, PROVIDE MANHOLE WITH 30" OPENING IN COVER & FRAME.
6. ALL MANHOLE COVERS SHALL BE MACHINED BELOW FRAME AS SHOWN IN GASKET DETAIL ABOVE.

1/E3 STANDARD MANHOLE COVER AND FRAME DETAIL
NOT TO SCALE



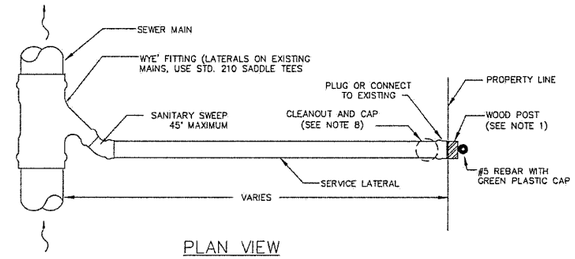
FLEXIBLE SEAL ADAPTER



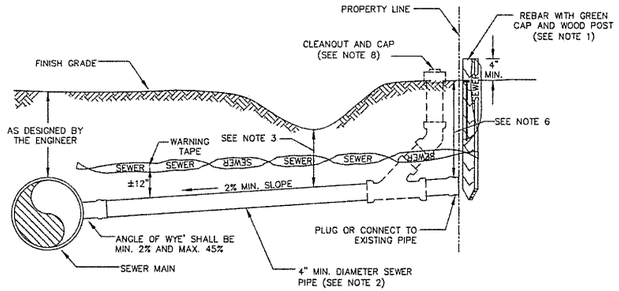
GROUT DETAIL

NOTES
1. ALL MANHOLE CONNECTIONS SHALL BE 100% WATERTIGHT.
2. ALL PIPE SHALL EXTEND 2" INTO MANHOLE.
3. NEOPRENE BOOT ON THE FLEXIBLE SEAL ADAPTER SHALL BE A MINIMUM OF 3/8" THICK PER ASTM C-443, AND SHALL BE HELD IN PLACE WITH AN INTERNAL EXPANDING BAND SUCH AS "KOR-N-SEAL" OR APPROVED EQUAL.
4. PVC SAND COLLAR NOT ALLOWED IN AREAS OF A HIGH WATER TABLE.
5. HDPE FLANGE SHALL BE WELDED TO A SECTION OF PIPE AND INSERTED THROUGH THE FLEXIBLE SEAL FROM THE INSIDE OF THE MANHOLE. THE LENGTH OF HDPE REQUIRED TO BE DETERMINED BY THE INSTALLER.
6. ROMAC HDPE PIPE STIFFINER OR APPROVED EQUAL MAY BE REQUIRED FOR HDPE GRAVITY MAIN INSTALLATIONS. VERIFY WITH THE ENGINEER PRIOR TO INSTALLATION.

2/E3 MANHOLE CONNECTION DETAIL
NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTES:
1. MARK SERVICE WITH GREEN PAINTED 2"x4" POST OR STAMP "S" IN TOP OF CURB. POST SHALL EXTEND TO DEPTH OF SERVICE LATERAL. REBAR W/CAP SHALL BE DRIVEN TO GROUND LEVEL. EXTEND WARNING TAPE TO TOP OF POST AND STAPLE IN PLACE.
2. ACCEPTABLE PIPE FOR USE WITHIN R.O.W. INCLUDES C900 PVC, SDR 35 PVC AND DUCTILE IRON.
3. MINIMUM CLEARANCE OF 18" REQUIRED BENEATH DITCH LINE. PIPE WITH LESS THAN 44" OF COVER SHALL BE INSULATED AS APPROVED BY THE ENGINEER.
4. DISTANCE FROM WYE TO MANHOLE AND TWO MEASURED DISTANCES FROM END OF SERVICE PIPE TO PERMANENT OBJECTS SHALL BE NOTED ON AS-BUILT PLANS.
5. SERVICE LATERAL SHALL END AT THE PROPERTY LINE WITH A BELL AT THE END OF PIPE.
6. LATERAL DEPTH AT PROPERTY LINE SHALL ACCOMMODATE EXISTING BUILDING SEWER OR FUTURE BUILDING SITE(S).
7. PIPE CONNECTIONS IN THE RIGHT-OF-WAY THAT DO NOT USE BELL AND SPIGOT SHALL CONFORM TO STANDARD 218.
8. CLEANOUT MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.

3/E3 SANITARY SEWER SERVICE LATERAL DETAIL
NOT TO SCALE

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

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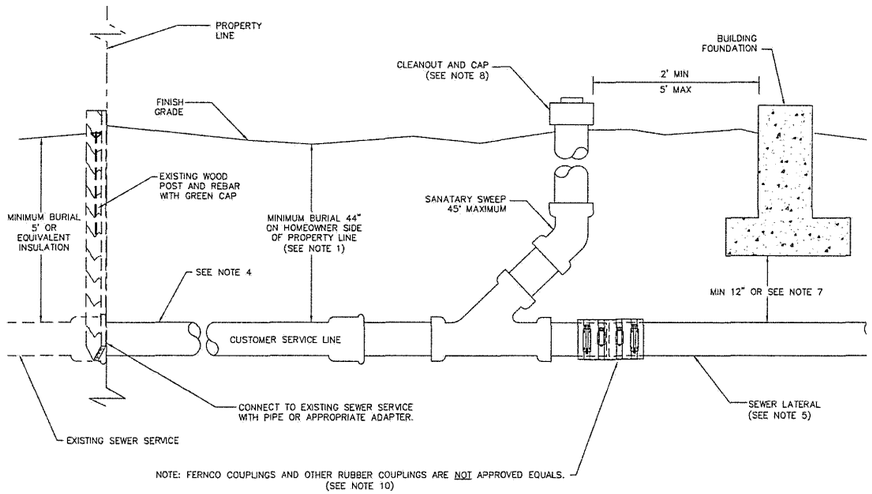
STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: DETAILS

E3

SHEET: 10 of 29

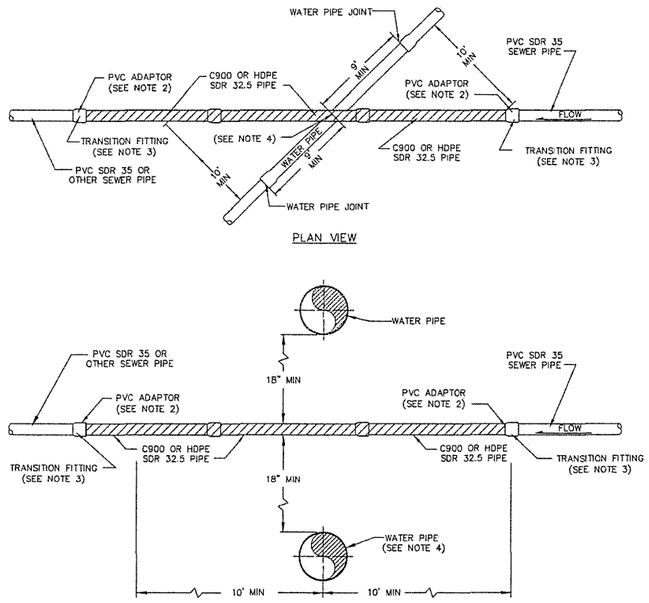


NOTES:

1. WHERE DEPTH OF PIPE MUST BE LESS THAN 44" INSULATION SHALL BE REQUIRED AS APPROVED BY THE ENGINEER.
2. MINIMUM GRADE SHALL BE 2% (1/4" PER FOOT).
3. MINIMUM PIPE DIAMETER SHALL BE 4".
4. ACCEPTABLE MATERIALS FOR PIPE CONSTRUCTION BETWEEN THE PROPERTY LINE AND THE CLEANOUT AT THE FOUNDATION INCLUDE: PVC (SDR 35 OR THICKER), A.B.S. (SCHEDULE 40), DUCTILE IRON (CLASS 2), AND CAST IRON (CLASS 2200).
5. MATERIALS AND INSTALLATION OF THE SEWER LATERAL SHALL CONFORM TO THE UNIFORM PLUMBING CODE. (NOTE: SDR 35 PVC IS NOT AN APPROVED MATERIAL FOR USE UNDER OR INSIDE THE FOUNDATION).
6. LATERAL DEPTH OF SANITARY SEWER SERVICE AT PROPERTY LINE SHALL ACCOMMODATE EXISTING SEWER LATERAL OR FUTURE BUILDING SITE(S). SEE STANDARD 213.
7. IF SEWER LATERAL IS LESS THAN 12" FROM FOUNDATION, SEWER LATERAL SHALL EITHER BE IRON PIPE OR A.B.S. SLEEVED IN IRON. IF SEWER LATERAL PASSES THROUGH THE FOUNDATION WALL, PIPE SHALL BE IRON AND THERE SHALL BE AT LEAST A 1" GAP IN CONCRETE AROUND PIPE. THIS GAP SHALL BE SEALED WITH FOAM.
8. CLEANOUT CONSTRUCTED OF "WYE" FITTING AND CAP OF SAME MATERIAL AS PIPE SHALL BE CONSTRUCTED WITHIN 2' TO 5' OF BUILDING FOUNDATION. AN ADDITIONAL
9. CLEANOUT SHALL BE REQUIRED FOR EVERY 100' OF PIPE AND FOR EACH AGGREGATE BEND OF 135°.
10. IF SEWER LATERAL DIFFERS IN MATERIAL OR SIZE FROM REST OF LINE, A COUPLING, NON-SHEAR, EAITHER MISSION FLEX SEAL, ROMAC INDURTRIES LSS1, OR APPROVED EQUAL IS REQUIRED. FOR LSS1 COUPLING, MINIMUM LENGTH IS 8" FOR A 4" DIA PIPE AND 12" FOR A 6" DIA PIPE.

1/E4 SANITARY SEWER CONNECTION, CUSTOMER SERVICE LINE DETAIL

NOT TO SCALE



NOTES:

1. HDPE, C900 OR SDR 32.5 SEWER PIPE SHALL BE INSTALLED FOR THE LENGTH SHOWN FOR ALL SANITARY SEWER CROSSINGS AS DIRECTED BY THE ENGINEER.
2. FROM SDR 35 TO C900 AND C900 TO SDR 35 JOINTS SHALL BE TRANSITION BELL PVC ADAPTER, INSTALLED PER THE MANUFACTURERS RECOMMENDATION.
3. FROM SDR 35 TO HDPE AND HDPE TO SDR 35 JOINTS SHALL BE TRANSITION FITTING OR LSS-1, STAINLESS NON-SHEAR COUPLING, INSTALLED PER THE MANUFACTURERS RECOMMENDATION.
4. A FULL LENGTH OF WATER PIPE SHALL BE CENTERED UNDER OR OVER THE SANITARY SEWER PIPE AT ALL CROSSINGS. THE TEN FOOT MEASUREMENT SHALL BE TAKEN PERPENDICULAR TO THE WATER PIPE JOINT.

2/E4 SANITARY SEWER CROSSING DETAIL

NOT TO SCALE

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #:222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA 49th
JOEL P. TEUNE 12194S
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: DETAILS

SHEET: E4

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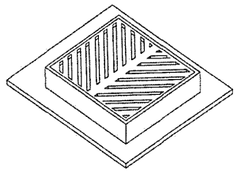
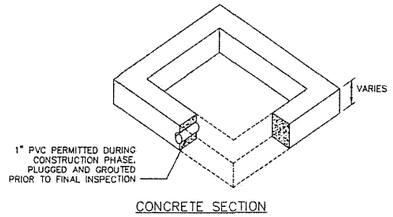
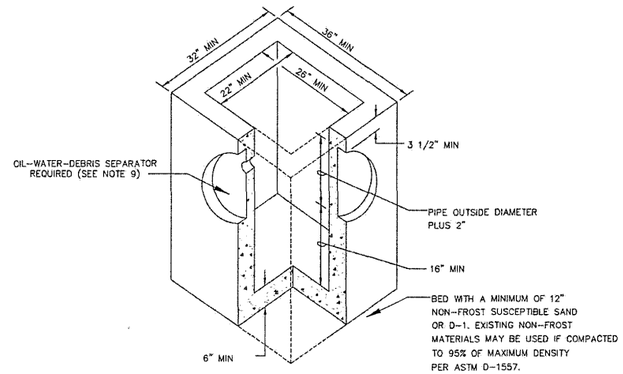


FRAME & GRATE



CONCRETE SECTION



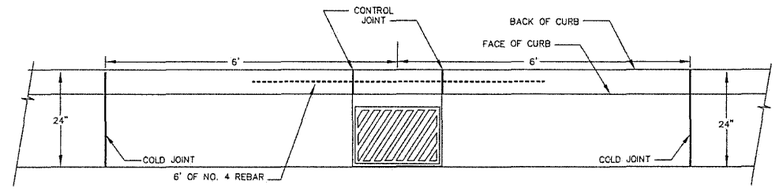
CATCH BASIN

NOTES

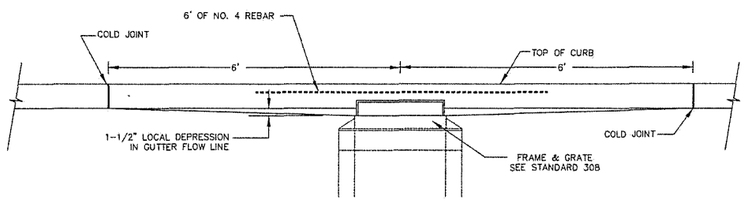
1. FOR USE WITH TWO INLET/OUTLET PIPES OF DIAMETER 12" OR SMALLER. FOR LARGER AND/OR MORE INLET/OUTLET PIPES OR IF CATCH BASIN IS DEEPER THAN 4' FROM FINISH GRADE TO SUMP, INSTALL A TYPE I OR TYPE II STORM DRAIN MANHOLE (SEE STANDARD 303).
2. ENTIRE KNOCKOUT IS TO BE REMOVED AND SEALED SHUT AROUND PIPE. ALL PIPES ARE TO EXTEND MIN 1" AND MAX 3" INTO CATCH BASIN. GROUT INTERIOR AND EXTERIOR BETWEEN FRAME, SECTIONS, AND CATCH BASIN.
3. FRAME AND GRATE SHALL BE DUCTILE IRON. FRAME MAY BE CAST INTO THE TOP UNIT OR PLACED OVER THE OPENING AS APPROVED BY THE ENGINEER. FRAME AND GRATE SHALL BE OF A TYPE THAT WILL NOT CREATE A HAZARD FOR BICYCLE TRAFFIC.
4. CATCH BASIN SHALL MEET HIGHWAY STANDARD-20 LOAD REQUIREMENTS.
5. MINIMUM STEEL SHALL BE SPECIFIED BY ASTM C-478-69.
6. MINIMUM SUMP DEPTH SHALL BE 16".
7. ADJUSTING RING SHALL BE THE SAME SIZE AS THE CATCH BASIN.
8. THE AREA BETWEEN THE TOP OF THE CATCH BASIN AND THE FRAME SHALL BE FORMED AND FILLED WITH CONCRETE MEETING THE REQUIREMENTS OF CBJ SPECIFICATION 03302 – CONCRETE STRUCTURES. NO BRICKS, WOOD OR OTHER MATERIALS PERMITTED FOR ADJUSTING GRADE.
9. ALL CATCH BASINS THAT EMPTY INTO AN OPEN DRAINAGE SHALL BE FITTED WITH AN OIL-WATER-DEBRIS SEPARATOR DEVICE AS DIRECTED BY THE ENGINEER.

1 / E5 TYPE III CATCH BASIN DETAIL

NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTES:

1. INSTALL LEFT OR RIGHT GRATES FOR BICYCLE SAFETY AS DETERMINED BY THE ENGINEER.
2. INSTALL STORM DRAIN MANHOLE TYPE I OR II, OR CATCH BASIN TYPE III OR TYPE IV AS APPROVED BY THE ENGINEER. SEE STANDARDS 303, 304A, AND 304B.
3. FOR DETAILS ON CURB INLET FRAME & GRATE SEE STANDARD 308.
4. CURB & GUTTER SHALL CONFORM WITH STANDARD 111A.

2 / E5 LOCAL DEPRESSION AT CATCH BASIN DETAIL

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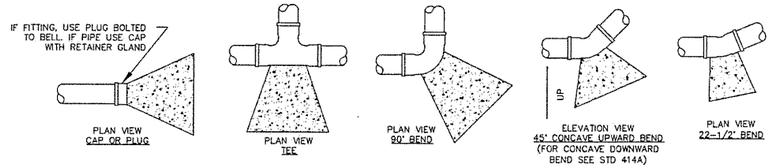
STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: DETAILS

E5

SHEET: 12 of 29



PIPE SIZE	TEES, CAPS, & PLUGS		90° BENDS		ALTERNATIVE RESTRAINED LENGTH IN ALL DIRECTIONS (FEET) – SEE NOTE 5		
	MIN. CONCRETE VOL. (YD³)	MIN. BEARING AREA (FT²)	MIN. CONCRETE VOL. (YD³)	MIN. BEARING AREA (FT²)	TEES	90° BENDS	CAPS & PLUGS
4"	0.1	1.7	0.1	2.4	11	16	33
6"	0.2	3.5	0.4	4.9	15	23	47
8"	0.5	6.0	0.9	8.5	20	30	62
10"	1.0	9.1	1.7	12.8	24	37	74
12"	1.7	12.8	2.9	18.1	29	44	88
14"	2.6	17.2	4.5	24.4	33	50	100
16"	3.9	22.3	6.6	31.5	38	57	113
18"	5.5	28.0	9.2	39.6	42	63	126
20"	7.5	34.4	12.5	48.6	47	70	138
24"	12.7	48.0	21.4	69.3	56	83	162

SMALL ANGLE ADJUSTMENT	
FOR ANGLES LESS THAN 90° MULTIPLY VOLUMES, AREAS, AND LENGTHS FOR 90° ANGLE BY THIS FACTOR	
ANGLE	FACTOR
45°	0.414
22-1/2°	0.199
11-1/4°	0.098

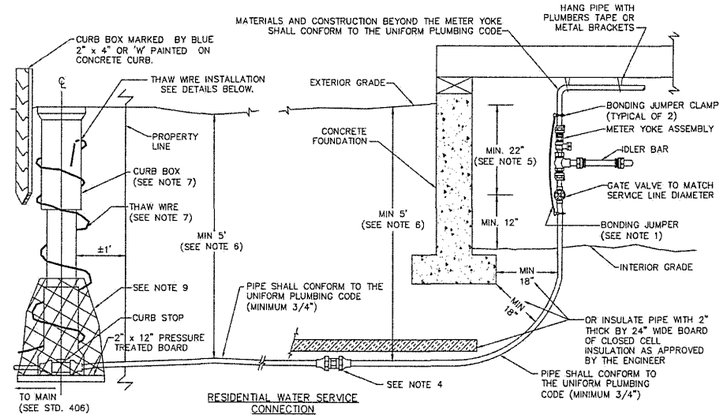
NOTES

1. CENTER OF MASS OF THRUST BLOCK MUST LAY OPPOSITE TO AND ALIGNED AGAINST THE DIRECTION OF THRUST.
2. THRUST BLOCKS SHALL BE POURED SO THAT JOINTS OF FITTINGS, INCLUDING ALL NUTS AND FOLLOWERS REMAIN ACCESSIBLE.
3. CONCRETE THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH. UNSTABLE OR UNSUITABLE MATERIALS SHALL BE REMOVED, REPLACED AND/OR COMPACTED AS DETERMINED BY THE ENGINEER.
4. VOLUME AND BEARING SURFACE OF 2500 P.S.I. CONCRETE THRUST BLOCKS ARE BASED ON 150 P.S.I. WATER PRESSURE AND SOIL BEARING CAPACITY OF 2000 P.S.F. ALL OTHER PRESSURE AND/OR SOIL CONDITIONS ARE SUBJECT TO THE ENGINEER'S REVIEW AND APPROVAL.
5. THRUST BLOCKS MAY BE OMITTED IF ALL JOINTS WITHIN MINIMUM DISTANCE GIVEN BY ABOVE TABLE ARE RESTRAINED AND PIPE IS BEDDED IN SAND. THE DISTANCES APPEARING IN THE TABLE ASSUME THAT THE PIPE IS BURIED AT LEAST 5' DEEP AND THAT SOIL CONDITIONS ARE AS LISTED IN NOTE 4. THE INFORMATION IN THE TABLE IS BASED ON DIPRA'S "THRUST RESTRAINT FOR DUCTILE IRON PIPE" WHICH SHOULD BE CONSULTED IF THESE ASSUMPTIONS ARE NOT MET. SUBJECT TO THE CONDITIONS LISTED IN NOTE 4, A COMBINATION OF A SMALLER THRUST BLOCK AND A REDUCED LENGTH OF RESTRAINED PIPE IS ALLOWED PER THE FOLLOWING FORMULA:

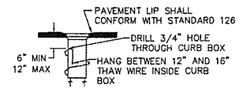
$$\frac{\text{ACTUAL BEARING AREA OF BLOCK}}{\text{BEARING AREA REQUIRED BY TABLE}} + \frac{\text{ACTUAL RESTRAINED LENGTH OF PIPE}}{\text{RESTRAINED LENGTH REQUIRED BY TABLE}} \geq 1.1$$

6. THRUST BLOCKS ARE REQUIRED FOR ALL BENDS, TEES, PLUGS, AND CAPS IN PIPE 4" AND LARGER EXCEPT AS LISTED IN NOTE 5.
7. REGARDLESS OF SIZE OF THRUST BLOCKS ALL JOINTS AT CAPS, PLUGS, BENDS, AND TEES MUST BE RESTRAINED.
8. RESTRAINED LENGTHS USED IN PLACE OF THRUST BLOCKS IN STANDARDS 414A AND 414B MAY NOT OVERLAP.
9. FIELD-LOCK GASKETS, MEGA-LUG AND UNIFLANGE COUPLINGS ARE THE ONLY APPROVED MEANS OF RESTRAINING PIPE.

1/E6 THRUST BLOCK DETAIL
NOT TO SCALE



RESIDENTIAL WATER SERVICE CONNECTION



THAW WIRE INSTALLATION DETAIL

NOTES:

1. BONDING JUMPER MUST MATCH ELECTRICAL COLD WATER GROUND WIRE. (EXAMPLE: NO. 4 WIRE FOR UP TO 200 AMP SERVICE.) BONDING JUMPER CLAMP MUST BE COMPATIBLE WITH COPPER PIPE.
2. ALL JOINTS OR VALVES ON SERVICE SIDE OF METER YOKE MUST BE MECHANICAL FITTINGS.
3. ALL COMMERCIAL FACILITIES AND RESIDENTIAL BUILDINGS WITH TWO OR MORE UNITS MUST INSTALL A WATER METER (OBTAINABLE FROM CBJ WATER UTILITY). SEE STANDARD 420.
4. ALL UNDERGROUND COPPER TUBE CONNECTIONS (IF ANY) SHALL BE EITHER MUELLER OR FORD FLARED UNIONS, FORD GRIP JOINT COMPRESSION FITTINGS OR APPROVED EQUAL. NIBCO BRAND IS NOT AN APPROVED EQUAL.
5. AFTER INSTALLATION, CONTINUE TO MAINTAIN A MINIMUM OF 22" UNOBSTRUCTED CLEARANCE FOR THE METER YOKE.
6. BURIAL DEPTHS GREATER THAN 5' MAY BE REQUIRED BY THE ENGINEER.
7. CURB BOX MUST BE RESET SO THAT IT IS PLUMB, AND THAW WIRE SHALL BE WOUND AROUND OUTSIDE OF CURB BOX.
8. UNDERGROUND SERVICE LINE SHALL NOT BE WITHIN 1" OF ANY OTHER SERVICE LINE.
9. WRAP BOTTOM OF CURB BOX WITH FABRIC OR PLASTIC PRIOR TO BACKFILLING TO KEEP MATERIAL FROM INFILTRATING THE BOX.

1/E6 RESIDENTIAL WATER SERVICE CONNECTION DETAIL
NOT TO SCALE

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SHEET: E6

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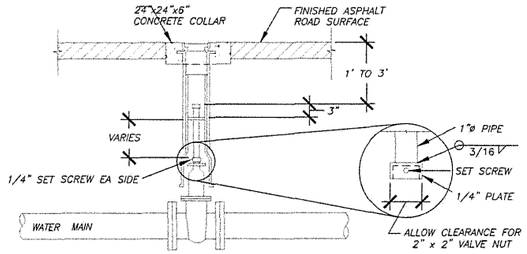
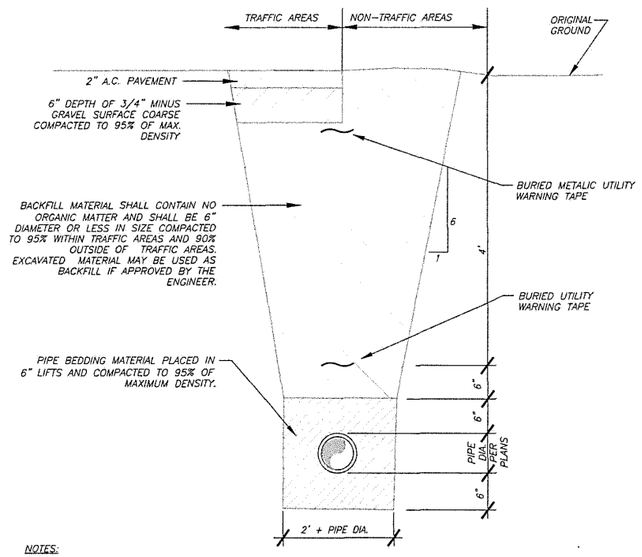


NOTE: EXTENSION IS REQUIRED ON ALL VALVES WHERE OPERATING NUT IS 6 FT OR MORE BELOW FINISHED SURFACE.

NOTES:

1. NEW VALVE BOX TO ALLOW FOR 12" MINIMUM VERTICAL ADJUSTMENT
2. THREADED VALVE BOX SECTIONS ARE NOT ALLOWED. CONTRACTOR SHALL REMOVE THREADED PORTIONS OF THE VALVE BOX WITH CUT-OFF SAW
3. CONTRACTOR SHALL APPLY GREASE TO ALL INTERFACES BETWEEN VALVE BOX SECTIONS.
4. COMPACTION AROUND VALVE BOX INSTALLATION IS CRITICAL. CONTRACTOR SHALL EMPLOY MECHANICAL TAMPING METHODS TO ENSURE THAT MATERIAL AROUND VALVE BOX REACHES 95% OF MAXIMUM COMPACTION.
5. CONTRACTOR SHALL INSTALL A 6" MINIMUM THICKNESS OF D-1 BEDDING AROUND VALVE BOX DURING BACKFILL.
6. EXTENSION IS REQUIRED ON ALL VALVES WHERE OPERATING NUT IS 4.5' OR MORE BELOW FINISHED SURFACE.

1/E7 TYPICAL MAIN LINE VALVE W/OPERATING ROD DETAIL
NOT TO SCALE



NOTES:

1. BACKFILL MATERIAL SHALL BE PLACED IN 12" MAXIMUM LIFTS.
2. TRENCH EXCAVATION AND SHORING SHALL COMPLY WITH LOCAL, STATE, AND OSHA REGULATIONS AND REQUIREMENTS.
3. INDICATED SLOPE IS FOR PAY QUANTITY DETERMINATION ONLY FOR IMPORTED BACKFILL GRAVEL AND RESURFACING REQUIREMENTS.
4. IF UNSUITABLE PIPE FOUNDATION MATERIAL IS ENCOUNTERED DURING EXCAVATION, ENGINEER MAY DIRECT THE CONTRACTOR TO OVER-EXCAVATE AND BACKFILL WITH SUITABLE MATERIAL.
5. THE DITCH LINE, IF ONE EXISTS, SHALL BE RESHAPED IN SUCH A MANNER TO ALLOW POSITIVE DRAINAGE TO MATCH PRE-CONSTRUCTION CONDITIONS.

1/E7 TYPICAL TRENCH DETAIL
NOT TO SCALE

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SHEET DESCRIPTION: DETAILS

E7

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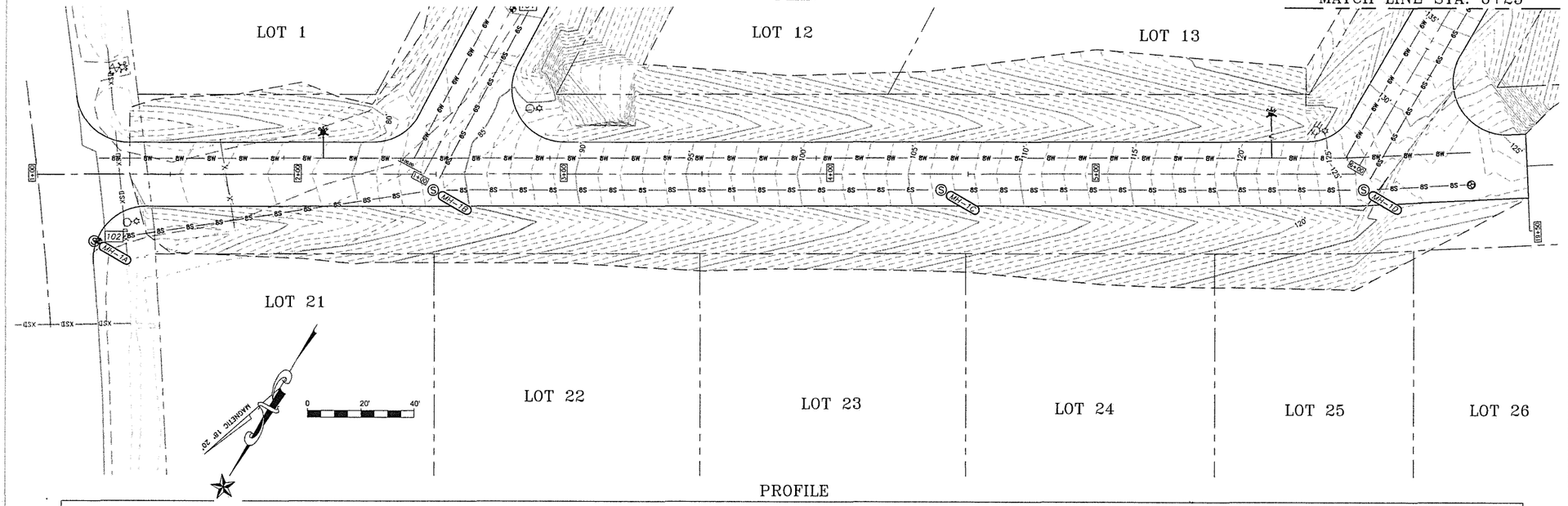
PLAN



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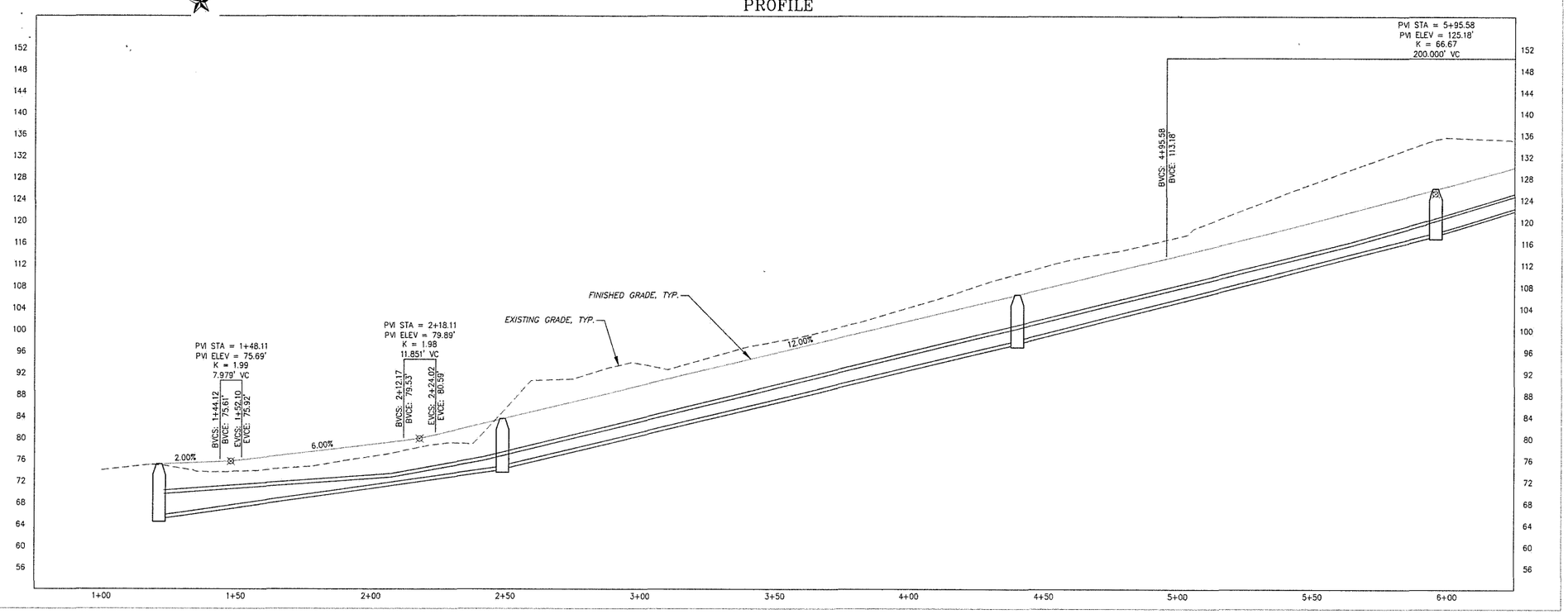

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F0

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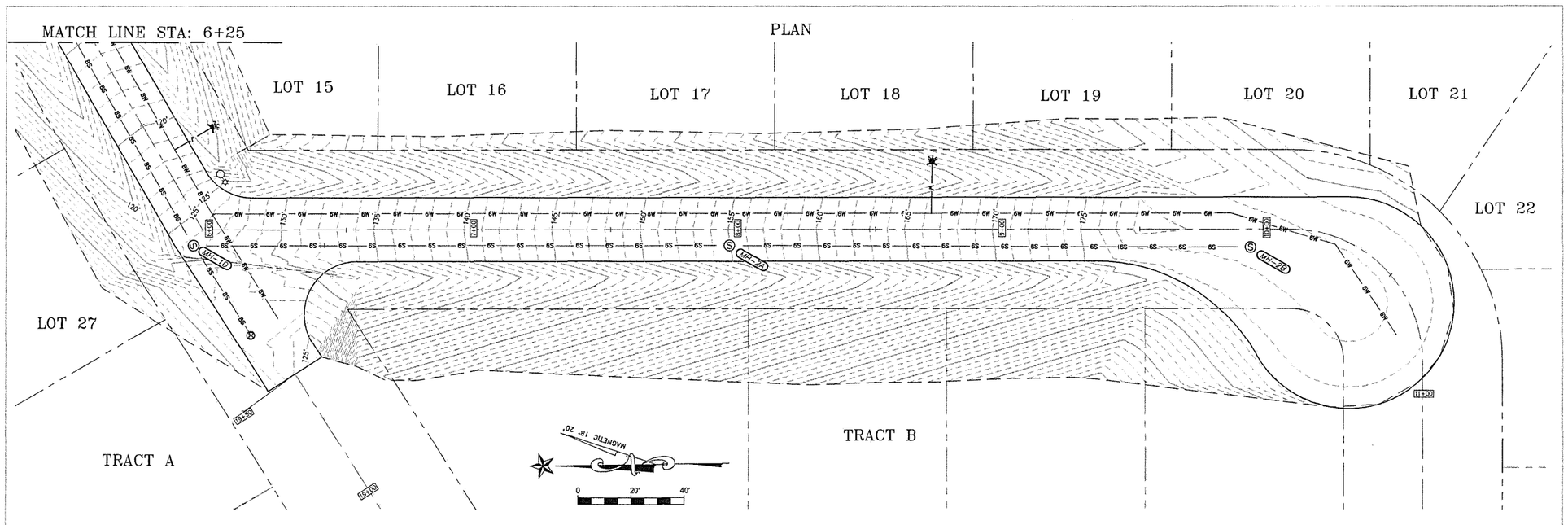

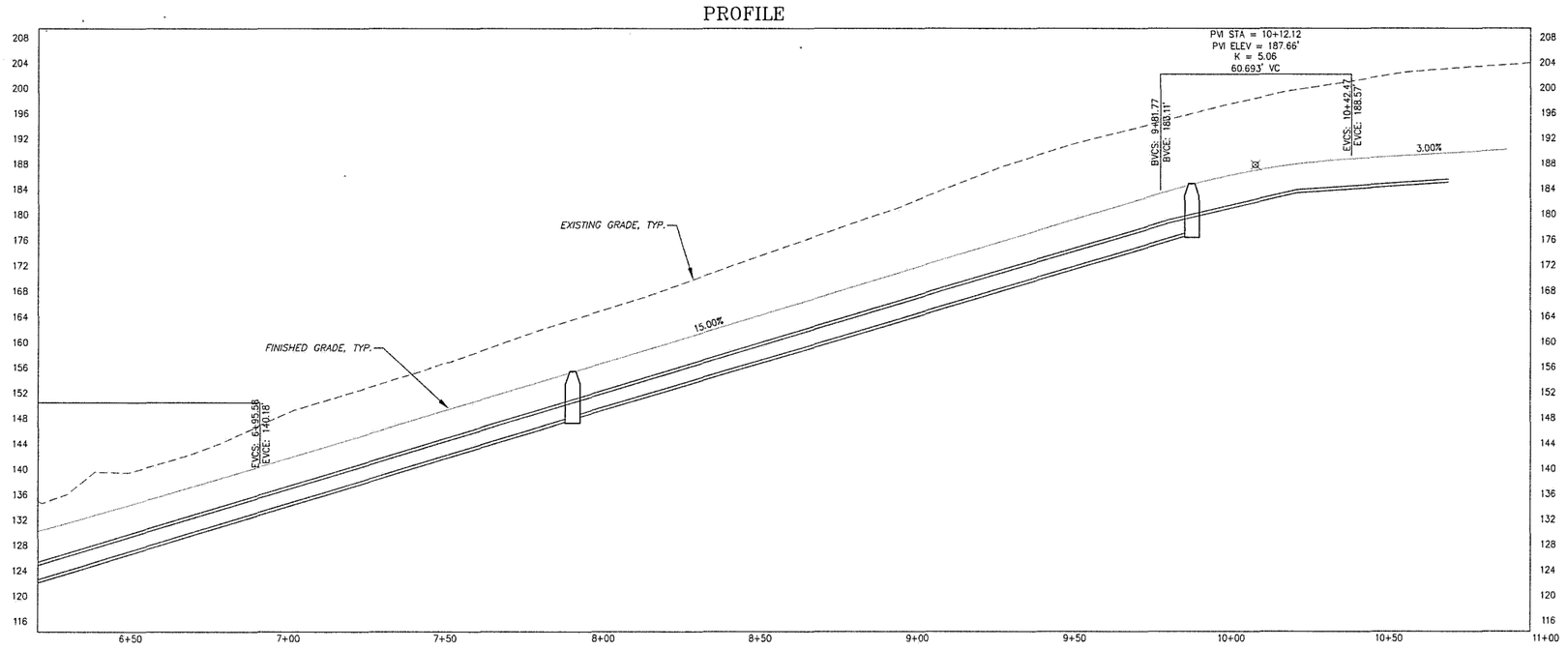

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F1

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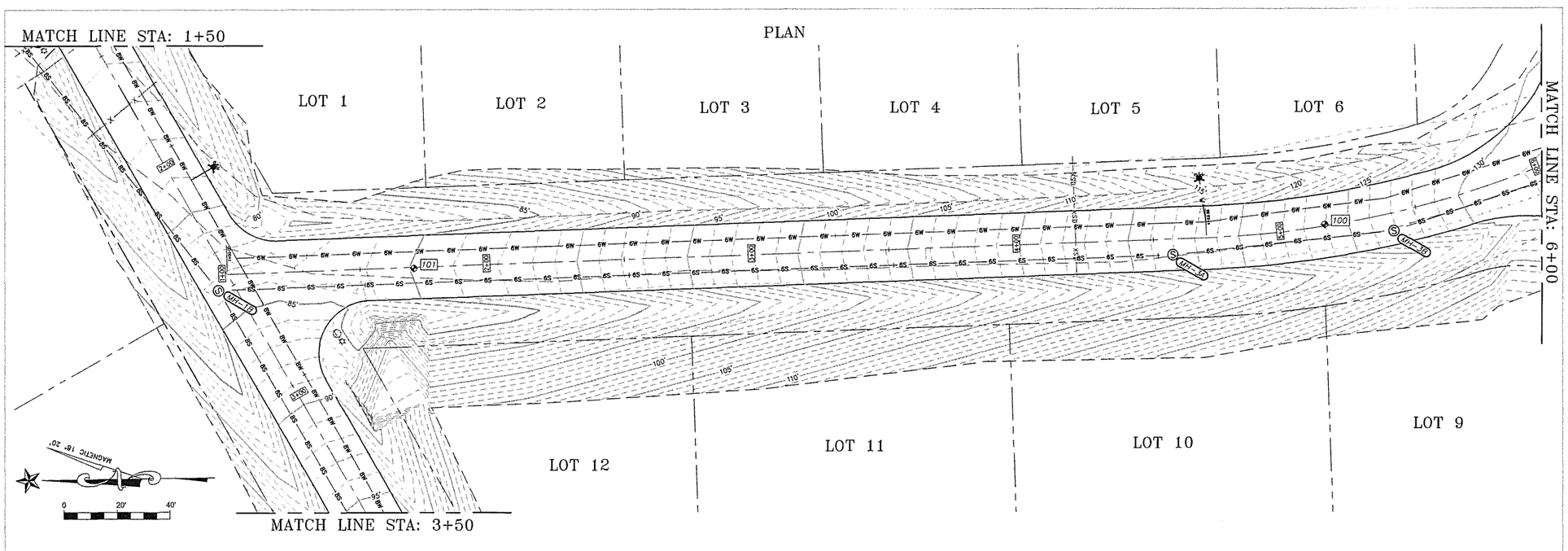
PLAN



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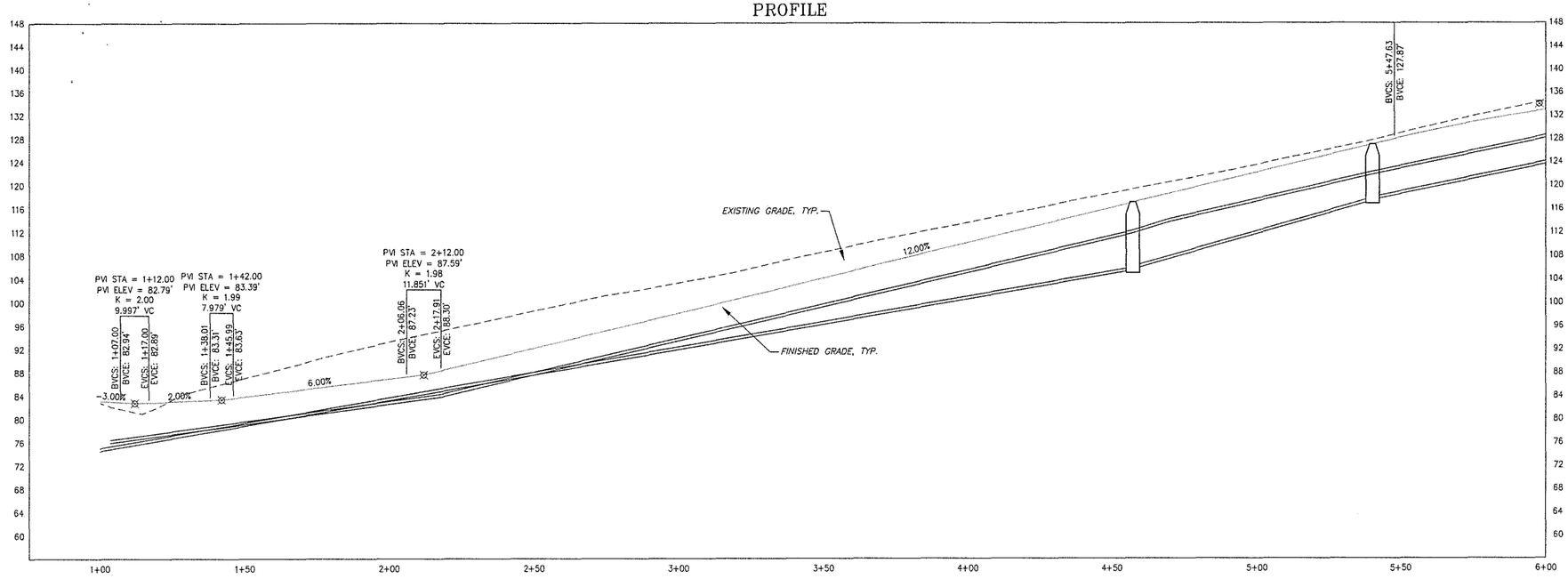

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F2

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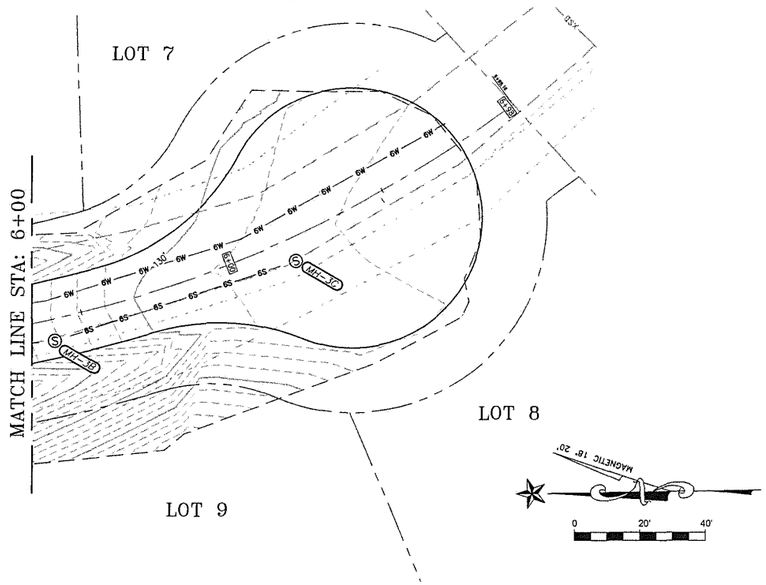
PLAN



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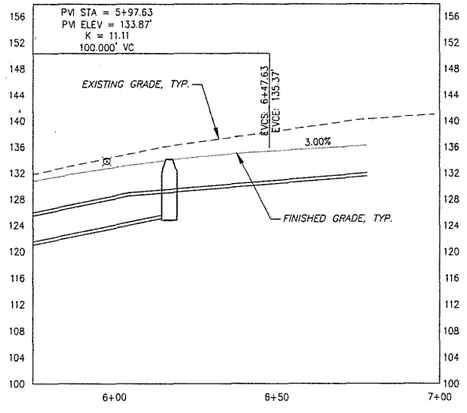

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EROSION AND SEDIMENT CONTROL PLAN (ESCP) NOTES

1. THE ESCP IS A GENERAL PLAN FOR GUIDING THE DEVELOPMENT OF THE CONTRACTOR'S STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR IS EXPECTED TO PROVIDE ADDITIONAL DETAILS AND BEST MANAGEMENT PRACTICES (BMP's) BASED ON THE CONTRACTOR'S ACTUAL SCHEDULE AND CONSTRUCTION METHODS, ARE REQUIRED TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT.
2. SEDIMENT CONTROL MEASURES AND TEMPORARY EROSION CONTROL FEATURES SHALL BE BASED ON THE BMPS AS CONTAINED IN THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES MANUAL "CONTRACTOR GUIDANCE FOR PREPARING AND EXECUTING STORM WATER POLLUTION PREVENTION PLANS
3. THE CONTRACTOR SHALL IDENTIFY ALL OPERATIONAL CULVERTS AND STORM DRAINS IN THE PROJECT THAT WILL BE IMPACTED BY STORM WATER FROM THE PROJECT ACTIVITIES. THE CONTRACTOR SHALL PROVIDE INLET AND OUTLET PROTECTION FOR THOSE CULVERTS AND STORM DRAINS.
4. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBED AREA OPEN TO EROSION AT ANY ONE TIME.
5. EROSION AND SEDIMENT CONTROL BMPS SHALL BE INSTALLED WITHIN 14 DAYS IN AREAS WHERE EARTHWORK DISTURBANCE HAS TEMPORARILY OR PERMANENTLY CEASED.
6. ALL DISTURBED GROUND CAPABLE OF SUPPORTING VEGETATION SHALL BE RE-VEGETATED ACCORDING TO SECTION 618 OF THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION MOST CURRENT ADDITION FOR FINAL STABILIZATION. FINAL STABILIZED AREAS NOT RE-VEGETATED SHALL BE 100% COVERED BY ROCK, ASPHALT, CONCRETE, OR OTHER PERMANENT NON-ERODABLE MATERIAL.
7. TEMPORARY PERIMETER CONTROLS SHALL BE INSTALLED FOR ANY FILL PLACED WITHIN 20 FEET OF ORDINARY HIGH WATER.
8. TEMPORARY SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO ANY UP-GRADIENT SOIL DISTURBANCE OCCURS.
9. PROVIDE SEDIMENT CONTROLS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE.
10. RETAIN A VEGETATIVE BUFFER STRIP IN UPLAND AREAS WHEREVER POSSIBLE. VEGETATIVE BUFFER STRIPS MAY BE USED IN LIEU OF SILT FENCE OR OTHER TEMPORARY DEVICES PROVIDED THEY ARE OF SUFFICIENT WIDTH FOR THE CATCHMENTS AREA (SEE BMP DETAILS).
11. AVOID CONDITIONS WHICH PROMOTE CONCENTRATED FLOWS. INSTALL VELOCITY CONTROL BMPS WHEN CONCENTRATED FLOWS OCCUR.
12. SLOPE PROTECTION SHALL INCLUDE SLOPE ROUGHENING, TACKIFYING, EROSION CONTROL BLANKETS, SEEDING, ROCK LINING, OR OTHER METHODS APPROVED BY THE PROJECT ENGINEER.
13. ALL STOCKPILES OF ERODIBLE MATERIALS SHALL HAVE PERIMETER CONTROLS IN PLACE.
14. ERODIBLE MATERIALS MAY NOT BE STOCKPILED WITHIN 100 FEET OF ORDINARY HIGH WATER.
15. THE CONTRACTOR'S SWPPP SHALL INCLUDE PROVISIONS FOR THE AUTHORIZED OVER BURDEN PLACEMENT AREAS.
16. PRIOR TO COMPLETION OF PROJECT AND FILING NOTICE OF TERMINATION FOR THE APDES CONSTRUCTION GENERAL PERMIT THE CONTRACTOR SHALL HYDRO-SEED ALL ERODIBLE SLOPES AND ESTABILISH A MINIMUM OF 70% COVER.

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P1

SHEET:
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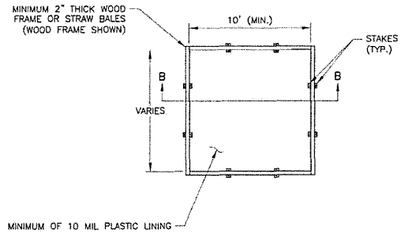
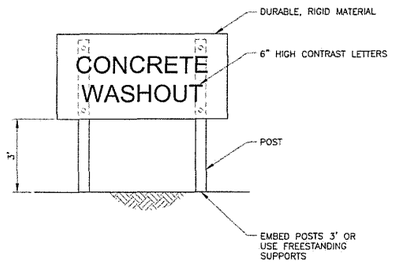
BMP 6.00 – CONCRETE WASHOUT



PLAN



WASHOUT SIGN
NOT TO SCALE

CONCRETE WASHOUT GENERAL NOTES:

MATERIALS

PRE-FABRICATED CONTAINERS: MADE OF STURDY MATERIALS THAT ARE WATER TIGHT.

FABRICATED ON-SITE CONTAINMENT:

1. BARRIER/SIDEWALLS: MAKE SIDEWALLS OF AN ABOVE-GRADE CONTAINMENT AREA FROM EARTHEN BERMS, BARRIER WALLS, WOOD PLANKS, OR OTHER MATERIALS THAT WILL BE STRUCTURALLY SOUND WHEN FILLED WITH WASTE MATERIALS.
2. LINER: IMPERMEABLE PLASTIC SHEETING OF AT LEAST 10 MIL THICKNESS, AND FREE OF HOLES, TEARS, AND OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
3. ANCHORS: SECURE THE LINER FOR ABOVE-GRADE CONTAINMENT AREAS AND SIDEWALL MATERIALS OTHER THAN BERMS WITH ANCHORS. USE SANDBAGS, 6-INCH WIRE STAPLES, AND WOOD OR METAL STAKES AS ANCHORS, BUT NOT LIMITED TO ONLY THEM.

SIGNS: DURABLE, RIGID MATERIAL WITH 6-INCH HIGH CONTRASTING LETTERS, PLACED AT A HEIGHT OF AT LEAST 3 FEET ABOVE GROUND LEVEL.

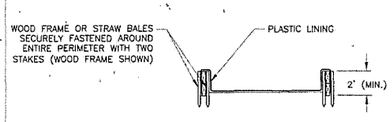
RAIN COVER: SECURE, NON-COLLAPSING, NON-WATER COLLECTING RAIN COVER, REQUIRED PRIOR TO PREDICTED WET WEATHER TO PREVENT ACCUMULATION AND OVERFLOW OF PRECIPITATION.

INSTALLATION

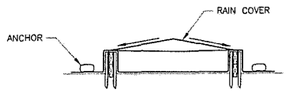
1. INSTALL SIGNS WITHIN 30 FEET OF THE WASHOUT.
2. IF THE WASHOUT IS LOCATED ON UNDEVELOPED PROPERTY OR OFF-PAVEMENT, PROVIDE A STABILIZED CONSTRUCTION EXIT.
3. PLACE CONCRETE WASHOUT CONTAINMENT A MINIMUM OF 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATERBODIES, OR PROVIDE SECONDARY CONTAINMENT FOR THE WASHOUT.
4. PROVIDE SUFFICIENT CAPACITY TO HANDLE THE EXPECTED VOLUME OF SOLIDS AND WASH WATER AT 50% MAX CAPACITY AND ALLOW 12 INCHES MINIMUM OF FREEBOARD.
5. PRE-FABRICATED WASHOUT CONTAINERS ARE USUALLY DELIVERED ASSEMBLED. IF ASSEMBLY IS REQUIRED, FOLLOW MANUFACTURER'S INSTRUCTIONS.
6. SELF-INSTALLED CONTAINMENT:
   a. ABOVE-GRADE WASHOUT: CONSTRUCT THE SIDEWALLS TO THE DIMENSIONS SHOWN ON THE DRAWINGS. IF NOT USING AN EARTHEN BERM FOR THIS PURPOSE, ENSURE THAT THE SIDEWALL MATERIAL IS SECURE AND EACH UNIT IS BUTTED TIGHTLY END TO END. LINE THE ENTIRE AREA WITH THE LINING MATERIAL, BRINGING THE SHEETING UP OVER THE SIDEWALLS AND SECURING THE ENDS WITH SANDBAGS, STAPLES OR OTHER APPROPRIATE ANCHORS.
   b. BELOW-GRADE WASHOUT: EXCAVATE A FLAT, SUBSURFACE PIT TO THE DESIRED SIZE AND CAPACITY FOR THE CONTAINMENT AREA. THE RESULTING SIDEWALL SHOULD NOT EXCEED 3:1 SLOPES. PREVENT DAMAGE TO THE LINER BY KEEPING THE BASE OF THE PIT FREE OF ROCKS AND DEBRIS. USE THE EXCAVATED MATERIAL TO CREATE A BERM ALONG THREE SIDES OF THE PIT, LEAVING THE SIDE PROVIDING ACCESS RELATIVELY FLAT. IT IS RECOMMENDED THAT THE BERM BE AT LEAST 1-FOOT HIGHER THAN EXISTING GROUND. LINE THE ENTIRE AREA WITH THE LINING MATERIAL, BRINGING THE SHEETING UP OVER THE SIDEWALLS AND BERM, AND SECURING THE ENDS WITH SANDBAGS OR OTHER APPROPRIATE ANCHORS.

INSPECTION

1. INSPECT AND VERIFY THAT CONCRETE WASHOUT BMPS ARE IN PLACE PRIOR TO THE COMMENCEMENT OF CONCRETE WORK.
2. DETERMINE IF THE CONCRETE WASHOUT IS FILLED TO 50 PERCENT CAPACITY.
3. FOR SELF-INSTALLED CONTAINMENT,
   a. INSPECT THE PLASTIC LINER TO ENSURE IT IS SECURELY ANCHORED AND INTACT.
   b. INSPECT THE SIDEWALLS FOR LEAKS. ENSURE THE CONSTRUCTION DOESN'T DAMAGE THE SIDEWALLS.
4. FOR PRE-FABRICATED CONTAINMENT, INSPECT THE UNIT FOR LEAKS AND POTENTIAL DAMAGE.
5. CHECK TO ENSURE THAT EACH WASHOUT SIGN IS STILL SECURE AND VISIBLE.
6. IF THERE IS EVIDENCE THAT WASHOUTS ARE OCCURRING IN LOCATIONS OTHER THAN THE DESIGNATED WASHOUT, IMPROVE EXISTING SIGNAGE, INSTALL ADDITIONAL SIGNAGE, INCREASE COMMUNICATION WITH CONCRETE TRUCK DRIVERS, AND PROVIDE CONCRETE TRUCK DRIVERS WITH MAPS OF WASHOUT LOCATIONS WITH RESPECT TO POUR LOCATIONS.



SECTION B-B



MAINTENANCE

1. CLEAN EXISTING WASHOUTS BEFORE THE WASHOUT IS 50 PERCENT FULL. SOLIDIFY WITH BAGGED GROUT, VACUUM AND DISPOSE OF LIQUIDS IN AN APPROVED MANNER, OR ALLOW FOR EVAPORATION (CHECK WITH THE LOCAL SANITARY SEWER AUTHORITY TO DETERMINE IF THERE ARE SPECIAL DISPOSAL REQUIREMENTS FOR CONCRETE WASH WATER).
2. IF NECESSARY, PROVIDE AN ALTERNATE WASHOUT DURING EXISTING WASHOUT CLEANING.
3. RELINE SELF-INSTALLED CONTAINERS AFTER EACH CLEANING. BECAUSE EQUIPMENT CAN DAMAGE THE LINER, BEFORE RELINING, INSPECT THE CONTAINMENT STRUCTURE FOR SIGNS OF WEAKENING OR DAMAGE AND MAKE ANY NECESSARY REPAIRS. THEN LINE THE STRUCTURE WITH NEW PLASTIC SHEETING, CHECKING THAT IT IS FREE OF HOLES, TEARS, AND OTHER DAMAGE.
4. REPAIR DAMAGED WASHOUTS BEFORE THE NEXT CONCRETE POUR. IF NECESSARY, PROVIDE NEW WASHOUTS UNTIL THE EXISTING WASHOUTS ARE OPERATIONAL.
5. CONTAIN ANY SPILL OR DISCHARGE OF CONCRETE WASTE MATERIALS.
6. REPLACE OR INSTALL NEW SIGNAGE AS NEEDED.

REMOVAL

1. AN OPERATIONAL CONCRETE WASHOUT SHOULD REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT (OR PHASE OF THE PROJECT) IS POURED. WHEN THE CONCRETE WASHOUT IS NO LONGER NEEDED, THE LIQUID MUST BE EVAPORATED OR VACUUMED FOR DISPOSAL AND THE HARDENED SOLIDS MUST BE BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF. DISPOSAL LOCATION TO BE APPROVED BY ENGINEER.
2. REMOVE FROM THE SITE PRE-FABRICATED WASHOUTS AND MATERIALS USED TO CONSTRUCT ABOVE-GRADE CONTAINMENT AREA AND PROPERLY DISPOSE OF THEM.
3. BACKFILL AND STABILIZE HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE CREATION OR REMOVAL OF THE WASHOUT WITH AN APPROVED BMP.

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

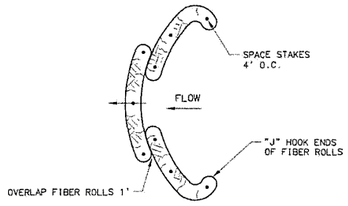
STATE OF ALASKA 49th
JOEL P. TEUNE 12194B REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: ESCP DETAILS

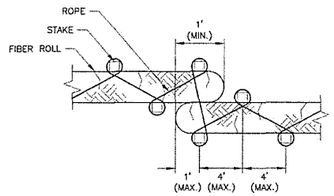
P2

SHEET: 20 of 29

BMP 10.00 – FIBER ROLLS



PLAN



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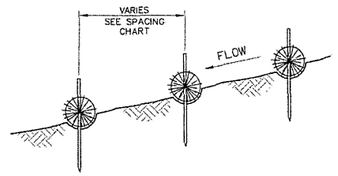

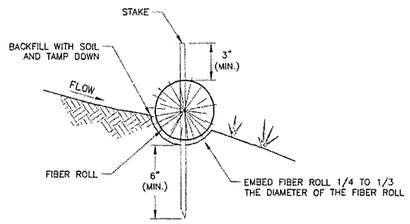

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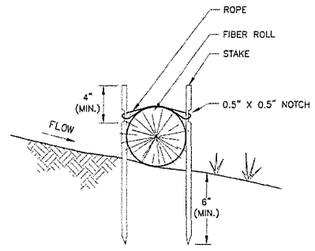


SECTION

TYPICAL SPACING CHART	
SLOPE	SPACING (FEET)
1:1	10
2:1	20
3:1	30

TRENCHED INSTALLATION
NOT TO SCALE

TRENCHED INSTALLATION NOTES:
1. DIG TRENCHES AND PLACE FIBER ROLLS IN THE TRENCHES.
2. CURVE BACK THE UPSLOPE END OF THE FIBER ROLL IN A "J" HOOK.
3. SPREAD EXCAVATED MATERIAL EVENLY ALONG THE UPHILL SLOPE AND COMPACT USING HAND TAMPING OR OTHER METHODS.
4. STAKE THE ROLL EVERY 4 FEET AND WITHIN 1-FOOT OF THE ENDS. LEAVE 3 INCHES OF THE STAKE ABOVE THE ROLL.
5. DRIVE STAKES THROUGH THE MIDDLE OF THE FIBER ROLL.
6. IF REQUIRED, PILOT HOLES FOR THE STAKES MAY BE CREATED BY DRIVING A STRAIGHT BAR THROUGH THE ROLL.

ROPE INSTALLATION
NOT TO SCALE

SLOPE INSTALLATION
NOT TO SCALE

SLOPE INSTALLATION NOTES:
1. INSTALL ON A SLOPE TO SHORTEN THE SLOPE LENGTH.
2. START INSTALLATION DOWNSLOPE.
3. SPACE ROLLS ACCORDING TO THE SPACING CHART AND DECREASE SPACING ON MORE ERODIBLE SOILS AND INCREASE SPACING ON ROCKY SOILS.

FIBER ROLL GENERAL NOTES:

MATERIALS

FIBER ROLLS: THE NETTING MAY BE UV-DEGRADABLE POLYPROPYLENE, BIODEGRADABLE BURLAP, JUTE OR COIR. THE FILLINGS MAY BE STRAW, FLAX, RICE, OR COCONUT-FIBER. MINIMUM DIAMETER OF 6 INCHES.

STAKES: 1-INCH BY 1-INCH WOODEN STAKES 24 INCHES LONG (18 INCHES IF SOILS ARE ROCKY) OR ⅜-INCH REBAR WITH SAFETY CAPS OR ¾-INCH TO 1 ½-INCH DIAMETER LIVE WILLOW CUTTINGS. IF USING LIVE WILLOW CUTTINGS, DO NOT INSTALL ROPE.

INSTALLATION
1. PLACE FIBER ROLLS PERPENDICULAR TO FLOW AND PARALLEL TO THE SLOPE CONTOUR.
2. AT THE END OF THE ROLL, TURN THE END UPSLOPE TO PREVENT RUN-OFF FROM GOING AROUND THE ROLL END.

INSPECTION
1. ENSURE THAT THE ROLLS ARE IN CONTACT WITH THE SOIL AND THOROUGHLY ENTRENCHED.
2. LOOK FOR SCOURING UNDERNEATH THE ROLLS.
3. LOOK FOR SPLIT, TORN, UNRAVELING, OR SLUMPING FIBER ROLLS.
4. ENSURE EQUIPMENT HAS NOT DRIVEN OVER THE INSTALLED FIBER ROLLS.

MAINTENANCE
1. REPLACE DAMAGED SECTIONS OF FIBER ROLL.
2. REMOVE ACCUMULATED SEDIMENT UPSLOPE OF THE ROLL BEFORE IT REACHES ONE-HALF THE DISTANCE BETWEEN THE TOP OF THE FIBER ROLL AND THE GROUND SURFACE. WHEN PROTECTING A WATER BODY OR STORM DRAIN INLET, REMOVE ACCUMULATED SEDIMENT UPSLPE OF THE ROLL WHEN IT REACHES ONE-THIRD OF THE DISTANCE BETWEEN THE TOP OF THE FIEBER ROLL AND THE GROUND SURFACE.

REMOVAL
1. REMOVE FIBER ROLLS WHEN THE AREA IS STABILIZED OR WHEN THEY ARE NO LONGER NECESSARY.
2. COLLECT AND DISPOSE OF THE ACCUMULATED SEDIMENT.
3. REMOVE AND DISPOSE OF FIBER ROLLS.
4. FILL THE TRENCHES AND STAKE HOLES TO BLEND WITH THE ADJACENT GROUND AND REVEGETATE AS NECESSARY.

RETENTION
1. LEAVE FIBER ROLLS IN PLACE WHEN THE AREA IS STABILIZED OR WHEN THEY ARE NOT NECESSARY.
2. COLLECT AND DISPOSE OF THE ACCUMULATED SEDIMENT.
3. REMOVE AND DISPOSE OF THE NETTING, STAKES, AND ROPE.

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #:222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

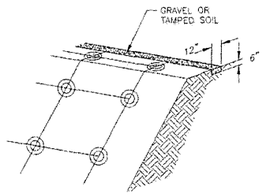
STATE OF ALASKA 49th
JOEL P. TEUNE 12198
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: ESCP DETAILS

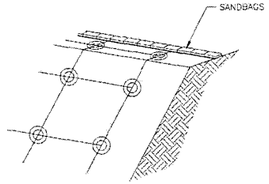
P3

SHEET: 21 of 29

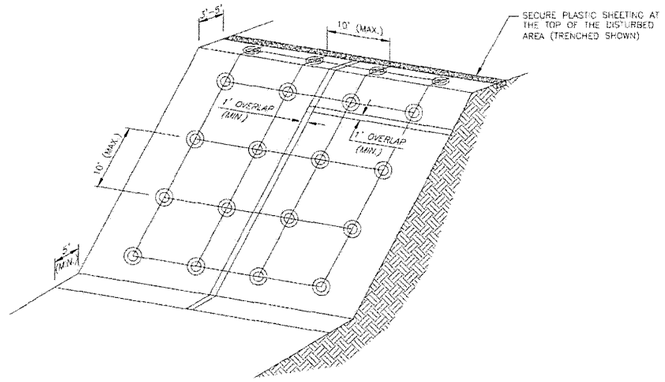
BMP 12.00 – PLASTIC COVERING



TRENCHED DETAIL



WEIGHTED DETAIL



PERSPECTIVE

PLASTIC COVERING NOTES:

MATERIALS

PLASTIC COVERING: PLASTIC COVERING SHALL MEET THE REQUIREMENTS OF ASTM D 4397 FOR POLYETHYLENE SHEETING HAVING A MINIMUM THICKNESS OF 6 MIL.

FASTENERS OR WEIGHTS: FASTENERS OR WEIGHTING OBJECTS, SUCH AS SANDBAGS, TIRES, OR OTHER SIMILAR MATERIALS.

INSTALLATION

1. INSTALL PLASTIC PARALLEL WITH THE SLOPE, NOT PERPENDICULAR. PLASTIC MAY BE INSTALLED PERPENDICULAR TO A SLOPE IF THE SLOPE LENGTH IS LESS THAN 10 FEET. OVERLAP UPHILL SHEET OVER DOWNHILL SHEET A MINIMUM OF 1-FOOT.
2. SECURE THE PLASTIC SHEETING AT THE TOP OF THE SLOPE BY KEYING INTO A TRENCH OR WEIGHT WITH A CONTINUOUS LINE OF SANDBAGS SO THAT NO WATER CAN FLOW UNDERNEATH.
3. INSTALL WEIGHTS ON ROPES OR FASTENERS IN A 10-FOOT MAXIMUM GRID, TO SECURE THE PLASTIC TIGHTLY AGAINST THE SOIL.
4. INSPECT WEIGHTS TO MAKE SURE THEY ARE STILL IN PLACE, REPLACE AS NEEDED OR ADD ADDITIONAL WEIGHT IF THERE IS NOT A SUFFICIENT AMOUNT ON THE SLOPE.
5. TAPE, FASTEN, OR WEIGHT SEAMS ALONG THEIR ENTIRE LENGTH WITH A MINIMUM OF 1-FOOT OF OVERLAP AT ALL SEAMS.
6. SECURE EDGES TO PREVENT WATER FROM ERODING GROUND UNDERNEATH AND WIND FROM LIFTING THE COVER.

INSPECTION

1. INSPECT SHEETING AFTER INSTALLATION AND ACCORDING TO ESTABLISHED SCHEDULES.
2. CHECK FOR EROSION, UNDERMINING, ANCHORAGE (KEYING AND EMBEDDING) FAILURE, TORN SHEETS, AND DETERIORATION.

MAINTENANCE

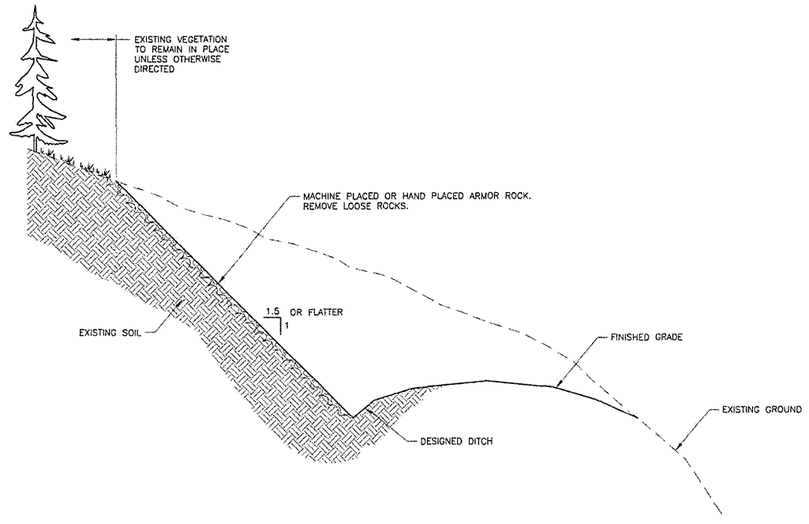
1. REPAIR FAILURES AS SOON AS PRACTICABLE.
2. IF WASHOUT OR BREAKAGES OCCUR, REPAIR DAMAGE TO THE SLOPE AND REINSTALL THE MATERIAL AS SOON AS PRACTICABLE.

REMOVAL

1. REMOVE PLASTIC SHEETING AND WEIGHTS PRIOR TO STABILIZING THE AREA OR WHEN CONSTRUCTION ACTIVITY IS COMPLETED.
2. AFTER REMOVAL, FILL TRENCHES TO BLEND WITH THE ADJACENT GROUND AND REVEGETATE, AS NECESSARY.

BMP 16.00 – ROCK FILTER BERM

BMP 17.00 – ROCK SLOPE ARMOR



ROCK SLOPE ARMOR NOTES:

MATERIALS

ROCK: COBBLE, GRAVEL, CRUSHED GRAVEL, CRUSHED ROCK, OR ANY COMBINATION OF THESE, MEETING SPECIFICATIONS AT 610-2.01 (DITCH LINING), 611-2.01 (RIPRAP), OR 703-2.10 (POROUS BACKFILL). USE ANGULAR ROCK ON SLOPES STEEPER THAN 2:1.

INSTALLATION

1. PREPARE THE SLOPE AS DESCRIBED IN THE CONTRACT OR AS DIRECTED BY THE ENGINEER.
2. MINIMIZE CONCENTRATED RUN-ON FROM CROSS-GRADIENT AND UP-GRADIENT SOURCES BY SITE GRADING AND/OR DIRECTING OR DIVERTING RUN-ON OR RUN-OFF AWAY FROM THE SLOPE FACE.
3. IF SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER, INSTALL THE FILTER FABRIC OR FILTER LAYER. AFTER CLEARING DEBRIS FROM SLOPE INSTALL FILTER FABRIC ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. INSTALL THE ROCK STARTING AT THE BOTTOM OF THE SLOPE AND PROCEEDING IN HORIZONTAL LIFTS UPWARDS.
5. PLACE STONES TO THE THICKNESS, HEIGHT, AND LENGTH SHOWN ON THE PLANS. DUMP SMALL ROCKS AND SPREAD BY BULLDOZER OR OTHER SUITABLE EQUIPMENT. DURING SPREADING, DO NOT CRACK THE ROCK.

INSPECTION

1. INSPECT FOR DAMAGE TO THE ROCK ARMOR, INCLUDING DISPLACED STONES, SLUMPING, AND EROSION AT EDGES, ESPECIALLY DOWNSLOPE.

MAINTENANCE

1. REPAIR DAMAGED ROCK ARMOR SLOPE OR EDGES AS SOON AS PRACTICABLE AND BEFORE FURTHER DAMAGE CAN OCCUR.

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
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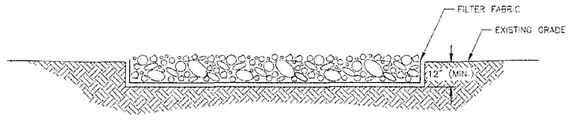
STATE OF ALASKA 49th JOEL P. TEUNE 121948 REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: ESCP DETAILS

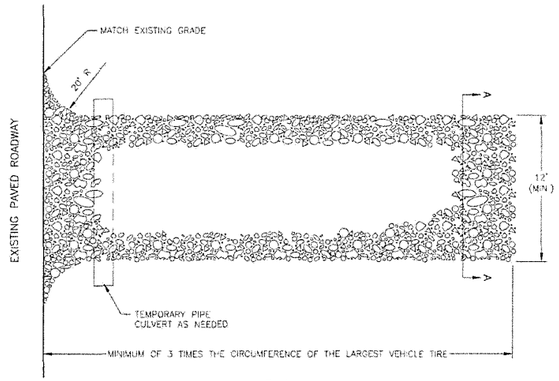
P4

SHEET: 22 of 29

BMP 23.00 – STABILIZED ROCK CONSTRUCTION EXIT



SECTION A–A



PLAN

STABILIZED CONSTRUCTION EXIT GENERAL NOTES:
INSTALLATION
1. INSTALL STABILIZED CONSTRUCTION EXIT PRIOR TO EARTH WORK.
2. CLEAR THE EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER MATERIAL.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP, VEGETATIVE SEDIMENT FILTER OR OTHER PROTECTED OUTLET.
4. EXCAVATE AND GRADE THE AREA FOR ROCK PLACEMENT.
5. INSTALL SIGNS, FENCING OR BARRICADES TO CHANNEL OUTGOING TRAFFIC TO THE STABILIZED CONSTRUCTION EXIT.

INSPECTION
1. INSPECT STABILIZED CONSTRUCTION EXIT FOR SEDIMENT ACCUMULATION AND MATERIAL DISPLACEMENT.
2. INSPECT ROADWAY FOR SEDIMENT TRACK–OUT.
3. INSPECT DITCHES TO ENSURE NO SEDIMENT ACCUMULATION.

MAINTENANCE
1. MAINTAIN EACH EXIT IN A CONDITION THAT WILL PREVENT TRACKING OF MUD OR SEDIMENT ONTO PUBLIC RIGHT–OF–WAY.
2. REPAIR AND/OR CLEAN OUT ANY STRUCTURES USED TO TRAP SEDIMENT.
3. REMOVE ALL MUD AND SEDIMENT DEPOSITED ON PAVED ROADWAYS.
4. ADD MORE SIGNS, FENCING OR BARRICADES WHEN VEHICLES ARE EXITING THE PROJECT WITHOUT USING THE STABILIZED CONSTRUCTION EXIT. INSTALL ADDITIONAL STABILIZED CONSTRUCTION EXITS IF NEEDED, YET USE SIGNS AND BARRICADES TO MINIMIZE THE NUMBER OF STABILIZED CONSTRUCTION EXITS.
5. PREVENT TRACK–OUT BY USING ADDITIONAL BMPs, SUCH AS A TIRE WASH.

REMOVAL
1. REMOVE THE STABILIZED CONSTRUCTION EXIT AND ANY SEDIMENT TRAPPING STRUCTURES AFTER THEY ARE NO LONGER NEEDED, OR WITH FINAL SITE STABILIZATION.
2. REGRADE AND PERMANENTLY STABILIZE THE REMAINING DISTURBED AREAS ACCORDING TO THE PLANS.

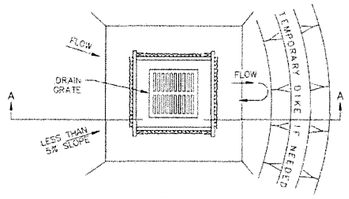
ROCK CONSTRUCTION EXIT NOTES:
MATERIALS
ROCK: 2– TO 3–INCH COARSE AGGREGATE OR 3– TO 6–INCH QUARRY SPALL OR ANGULAR ROCK, WHICHEVER IS APPROPRIATE TO THE PROJECT FLEET.

INSTALLATION
1. PLACE THE FILTER FABRIC AND ROCK TO THE SPECIFIC GRADE SHOWN ON THE PLANS.

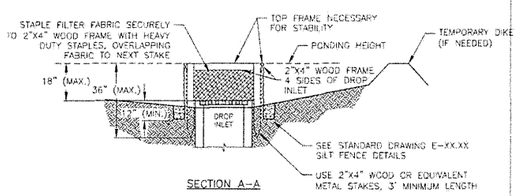
MAINTENANCE
1. REMOVE ACCUMULATED SEDIMENT OR MUD.
2. REPLACE ROCK MATERIAL WHEN SURFACE VOIDS ARE FILLED WITH SEDIMENT. REPLACE FABRIC AS NEEDED.
3. TOP DRESS WITH 2 TO 3 INCHES OF COARSE AGGREGATE OR 3– TO 6–INCH COARSE ROCK WHEN THE PAD BECOMES LADEN WITH SEDIMENT.

INSPECTION
1. INSPECT FOR ROCK THAT HAS BEEN DISPLACED FROM THE PAD.

BMP 28.00 – FILTER FABRIC FOR AREA INLETS



PLAN



SECTION A–A

FILTER FABRIC FOR AREA INLETS
NOT TO SCALE

AREA INLET FILTER FABRIC NOTES:
MATERIALS
PREFABRICATED UNITS: UPON APPROVAL BY THE ENGINEER, USE IN PLACE OF THE DESIGN SHOWN ON THIS DRAWING.

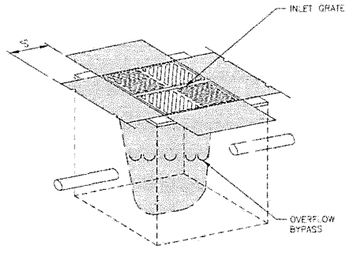
FILTER FABRIC: (SILT FENCE) SHALL COMPLY WITH SECTION 729–2.04 SILT FENCE.

INSTALLATION
1. IF PREFABRICATED BARRIERS ARE USED, INSTALL AS SPECIFIED BY THE VENDOR OR MANUFACTURER.
2. PLACE A STAKE AT EACH CORNER OF THE INLET OR IN A CIRCULAR PATTERN AROUND THE INLET NO MORE THAN 3 FEET APART. DRIVE STAKES INTO THE GROUND A MINIMUM OF 12 INCHES.
3. ENSURE STABILITY BY BRACING AT THE TOP.
4. INSTALL FILTER FABRIC (SILT FENCE) AS SHOWN ON DRAWING BMP–20.00 SILT FENCE.

INSPECTION, MAINTENANCE, AND REMOVAL
1. SEE STORM DRAIN INLET SEDIMENT PROTECTION GENERAL NOTES ON BMP–25.00 [STORM DRAIN INLET SEDIMENT PROTECTION (NOTES & AREA INLET FIBER ROLL OR GRAVEL/SAND BAG BERM)] NOTES FOR INSPECTION, MAINTENANCE, AND REMOVAL.

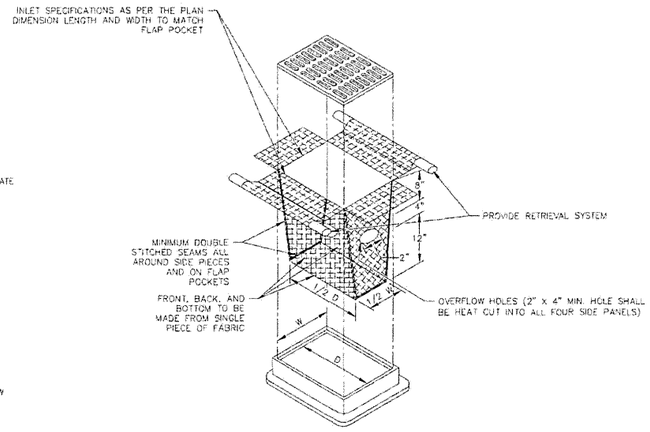
ROCK CONSTRUCTION EXIT
NOT TO SCALE

BMP 29.00 – SEDIMENT CONTROL INLET HAT FOR AREA DRAINS OR CURB INLETS



PERSPECTIVE

SEDIMENT CONTROL INLET HAT
FOR AREA DRAINS OR CURB INLETS
NOT TO SCALE



PERSPECTIVE

FILTER BAG INSERT
FOR AREA DRAINS OR CURB INLETS
NOT TO SCALE

AREA DRAINS OR CURB INLET NOTES:
MATERIALS
PREFABRICATED UNITS: UPON APPROVAL BY THE ENGINEER, USE IN PLACE OF THE DESIGN SHOWN ON THIS DRAWING.

SEDIMENT CONTROL INLET HATS: SHALL BE A POLYETHYLENE HAT–LIKE STRUCTURE COVERING THE INLET WITH SMALL WEEP HOLES ON THE SIDE PROVIDING A FILTERING FUNCTION FOR THE STORMWATER RUNOFF, AND A LARGE OPENING ABOVE THE WEEP HOLES FOR EMERGENCY OVERFLOW.

FILTER BAG INSERTS: SHALL CONSIST OF A REPLACEABLE FILTER BAG REINFORCED WITH AN OUTER POLYESTER MESH FABRIC.

1. THE FILTER BAG SHALL BE SUSPENDED FROM A GALVANIZED STEEL RING, REBAR OR STEEL RODS, OR FRAME THAT FITS WITHIN A GRATE UTILIZING A STAINLESS STEEL BAND AND LOCKING CLAMP.
2. CONSTRUCT THE FILTER BAG THAT IS SUSPENDED FROM A FRAME OF A POLYPROPYLENE FILTER GEOTEXTILE FABRIC, THAT MEETS THE FOLLOWING MINIMUM REQUIREMENTS:

	ASTM METHOD	VALUE	UNITS
UNIT WEIGHT	--	4	OUNCE/SQ YD
FLOW RATE	--	145	GALLONS/MINUTE/SQ FT
PERMITTIVITY	D4491	0.5	PER SECOND
GRAB TENSILE STRENGTH	D4632	200	POUNDS
PUNCTURE STRENGTH	D6241	80	POUNDS
TEAR STRENGH	D4533	50	POUNDS
DEBRIS CAPACITY	--	2	CUBIC FT

3. DOUBLE STITCH ALL EDGES AND SEAMS.
4. THE FILTER BAG INSERT SHALL HAVE OVAL, EDGE–HEAT–SEALED OVERFLOW HOLES, MINIMUM 2 INCHES X 4 INCHES, CUT INTO ALL FOUR PANEL SIDES.
5. PROVIDE BUILT–IN OVERFLOW BYPASS.
6. THE INLET STRUCTURE'S GRATE OVERFLOW CAPACITY IS AT A MINIMUM EQUAL TO THE DESIGN FLOW CAPACITY.
7. PROVIDE A RETRIEVAL SYSTEM, SUCH AS FLAPS, HANDLES, OR CORDS, TO ALLOW REMOVAL OF THE BELOW–INLET GRATE BARRIER WITHOUT SPILLING THE COLLECTED MATERIAL.

STORM DRAIN INLET SEDIMENT PROTECTION GENERAL NOTES
INSTALLATION
1. IF PREFABRICATED BARRIERS ARE USED, INSTALL AS SPECIFIED BY THE VENDOR OR MANUFACTURER.

INSPECTION
1. CHECK FOR SEDIMENT DEPTH. CLEANING IS REQUIRED WHEN SEDIMENT HAS ACCUMULATED TO ONE–THIRD THE DESIGN DEPTH (OR LESS WHEN SPECIFIED BY THE MANUFACTURER OF PREFABRICATED BARRIERS).
2. CHECK FOR UNDERMINING OR BYPASSING, SUCH AS EVIDENCE THAT SEDIMENT IS ENTERING THE INLET OR THAT RUN–OFF IS BYPASSING THE BARRIER AND ENTERING THE INLET UNTREATED.

MAINTENANCE
1. IF PREFABRICATED BARRIERS ARE USED, MAINTAIN THEM AS SPECIFIED BY THE VENDOR OR MANUFACTURER.
2. CORRECT UNDERMINING OR BYPASSING FAILURES.
3. REMOVE ACCUMULATED SEDIMENT BEFORE IT REACHES ONE–THIRD OF THE AVAILABLE STORAGE OF THE SEDIMENT PROTECTION DEVICE OR LESS WHEN SPECIFIED BY THE MANUFACTURER.
4. REMOVE AND DISPOSE OF ANY ROCK OR DEBRIS THAT HAS ACCUMULATED BEHIND THE SEDIMENT BARRIER TO PREVENT FURTHER CLOGGING.
5. REPLACE FRAYED OR TORN FABRIC OR MATERIALS AND REPAIR ANY STRUCTURAL DAMAGE AS SOON AS PRACTICABLE.

REMOVAL
1. LEAVE INLET SEDIMENT PROTECTION DEVICES IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA IS PERMANENTLY STABILIZED.
2. REMOVE AND DISPOSE OF TRAPPED OR REMAINING SEDIMENT.
3. STABILIZE DISTURBED SOIL AREAS RESULTING FROM REMOVAL OF BARRIERS OR SEDIMENT.

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #: 222321.10

R&M ENGINEERING–KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

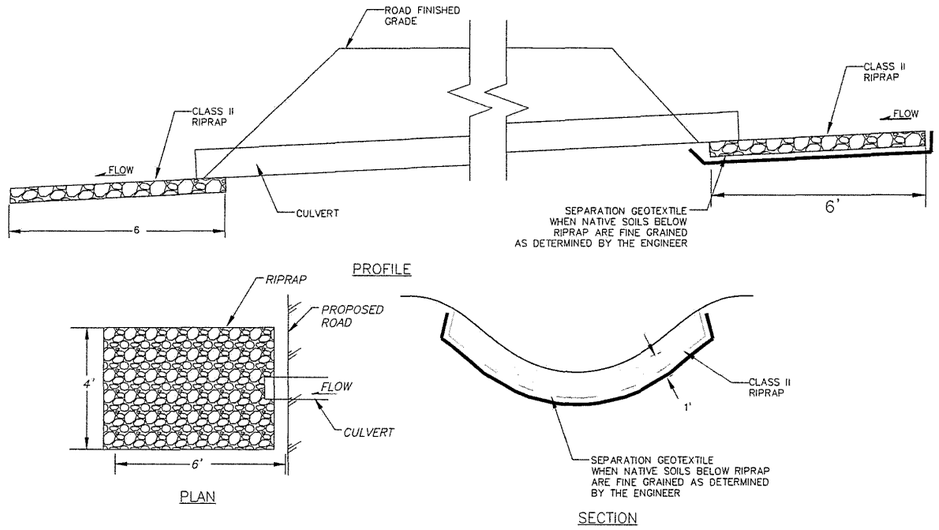
STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: ESCP DETAILS

P5

SHEET: 23 of 29

BMP A1 – CURB INLET CATCH BASIN BIO BAG INLET PROTECTION



BMP A2 – CULVERT INLET/OUTLET PROTECTION

STORM DRAIN INLET SEDIMENT PROTECTION GENERAL NOTES

INSTALLATION

1. IF PREFABRICATED BARRIERS ARE USED, INSTALL AS SPECIFIED BY THE VENDOR OR MANUFACTURER.

INSPECTION

1. CHECK FOR SEDIMENT DEPTH. CLEANING IS REQUIRED WHEN SEDIMENT HAS ACCUMULATED TO ONE–THIRD THE DESIGN DEPTH (OR LESS WHEN SPECIFIED BY THE MANUFACTURER OF PREFABRICATED BARRIERS).
2. CHECK FOR UNDERMINING OR BYPASSING, SUCH AS EVIDENCE THAT SEDIMENT IS ENTERING THE INLET OR THAT RUN–OFF IS BYPASSING THE BARRIER AND ENTERING THE INLET UNTREATED.

MAINTENANCE

1. IF PREFABRICATED BARRIERS ARE USED, MAINTAIN THEM AS SPECIFIED BY THE VENDOR OR MANUFACTURER.
2. CORRECT UNDERMINING OR BYPASSING FAILURES.
3. REMOVE ACCUMULATED SEDIMENT BEFORE IT REACHES ONE–THIRD OF THE AVAILABLE STORAGE OF THE SEDIMENT PROTECTION DEVICE OR LESS WHEN SPECIFIED BY THE MANUFACTURER.
4. REMOVE AND DISPOSE OF ANY ROCK OR DEBRIS THAT HAS ACCUMULATED BEHIND THE SEDIMENT BARRIER TO PREVENT FURTHER CLOGGING.
5. REPLACE FRAYED OR TORN FABRIC OR MATERIALS AND REPAIR ANY STRUCTURAL DAMAGE AS SOON AS PRACTICABLE.

REMOVAL

1. LEAVE INLET SEDIMENT PROTECTION DEVICES IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA IS PERMANENTLY STABILIZED.
2. REMOVE AND DISPOSE OF TRAPPED OR REMAINING SEDIMENT.
3. STABILIZE DISTURBED SOIL AREAS RESULTING FROM REMOVAL OF BARRIERS OR SEDIMENT.

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

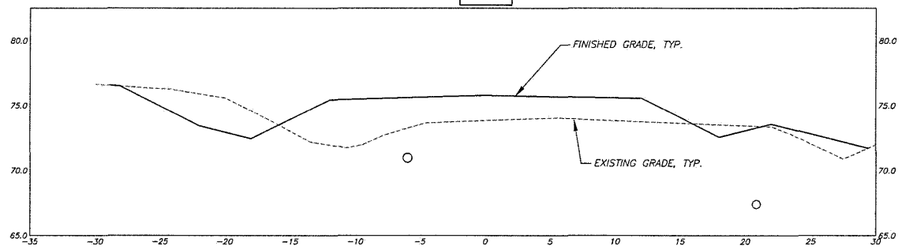
STATE OF ALASKA 49th
JOEL P. TEUNE 121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: ESCP DETAILS

P6

SHEET: 24 of 29

1+50.00



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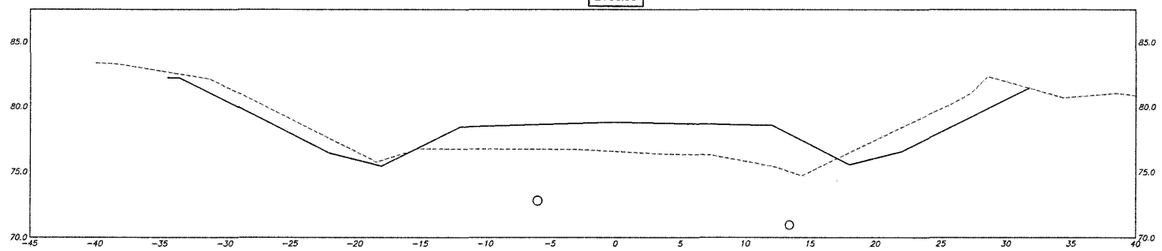

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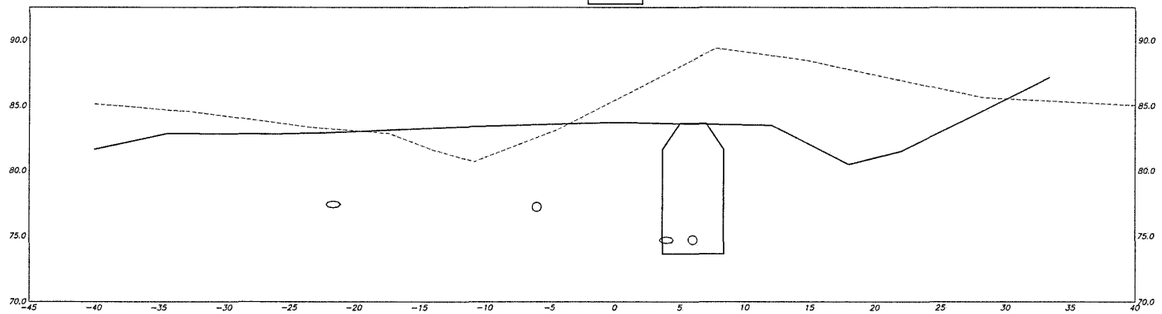

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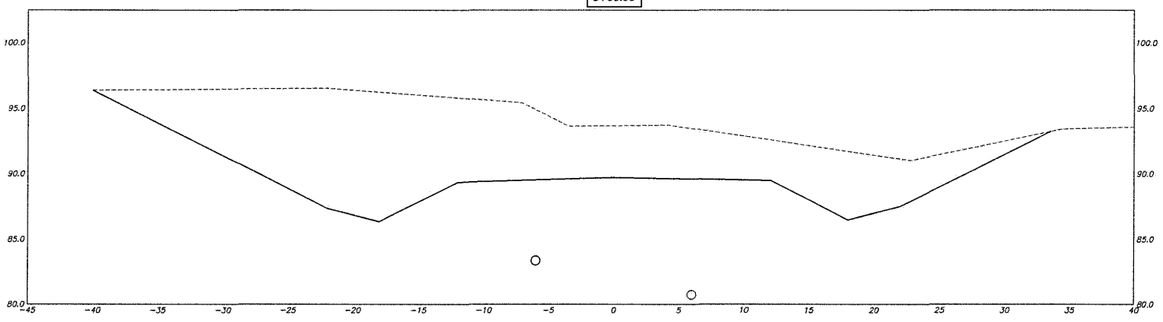

REVISIONS:

SEET KANAX DUTEEN
DEVELOPMENT PLAN

STATUS:
35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #:222321.10

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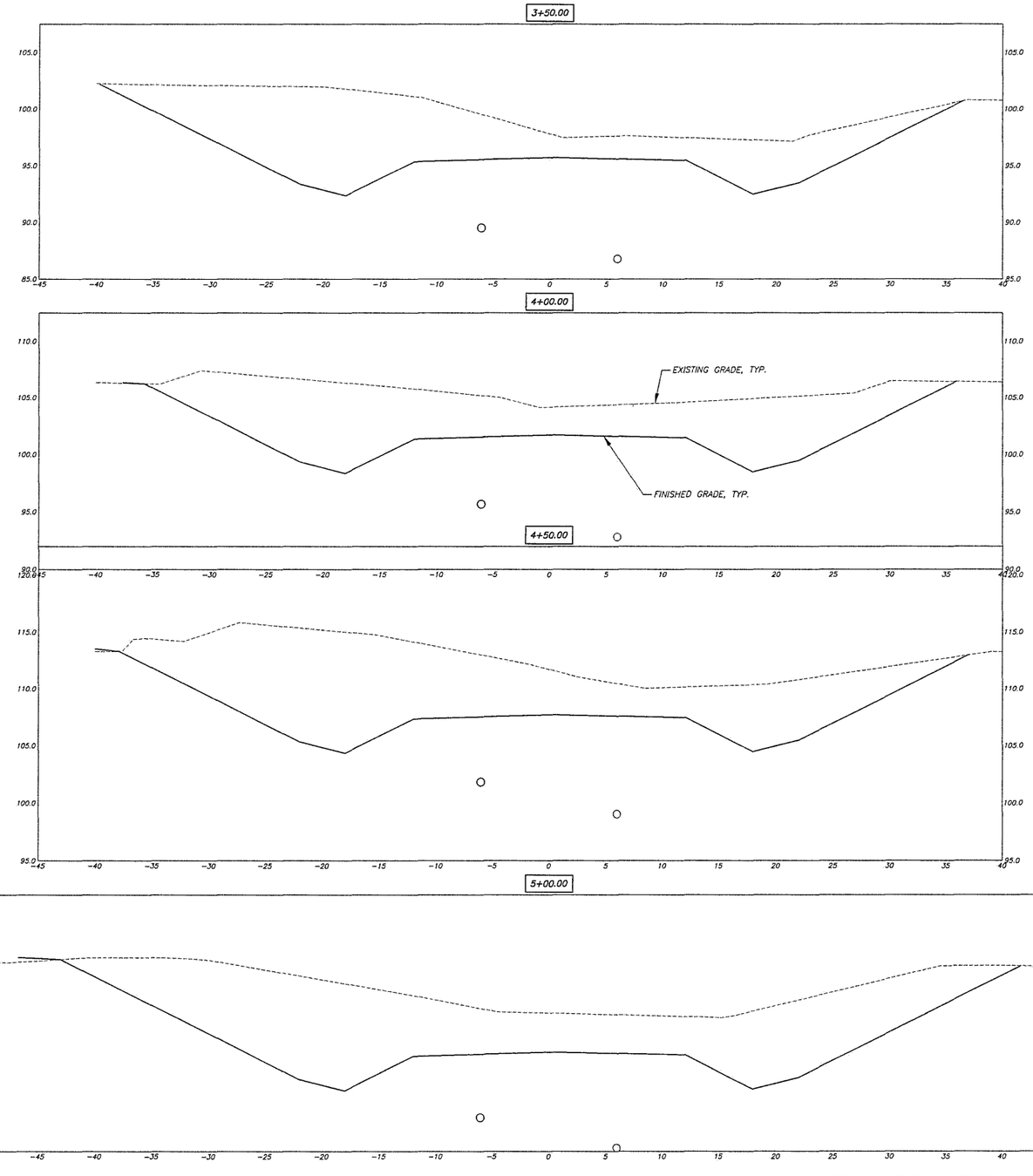
AELC 576

STATE OF ALASKA
49th
JOEL P. TEUNE
121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SECTION VIEWS

S0

SHEET:
25 of 29



REVISIONS:

SEET KANAX DUTEEN
DEVELOPMENT PLAN

STATUS:
35%

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CHECKED BY: JPT
DATE: 10/18/2023
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R&M ENGINEERING-KETCHIKAN, INC.
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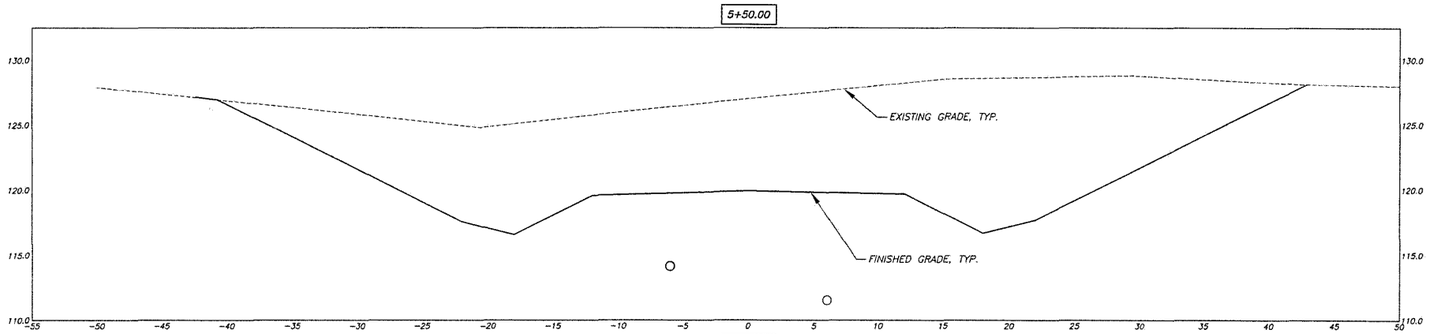
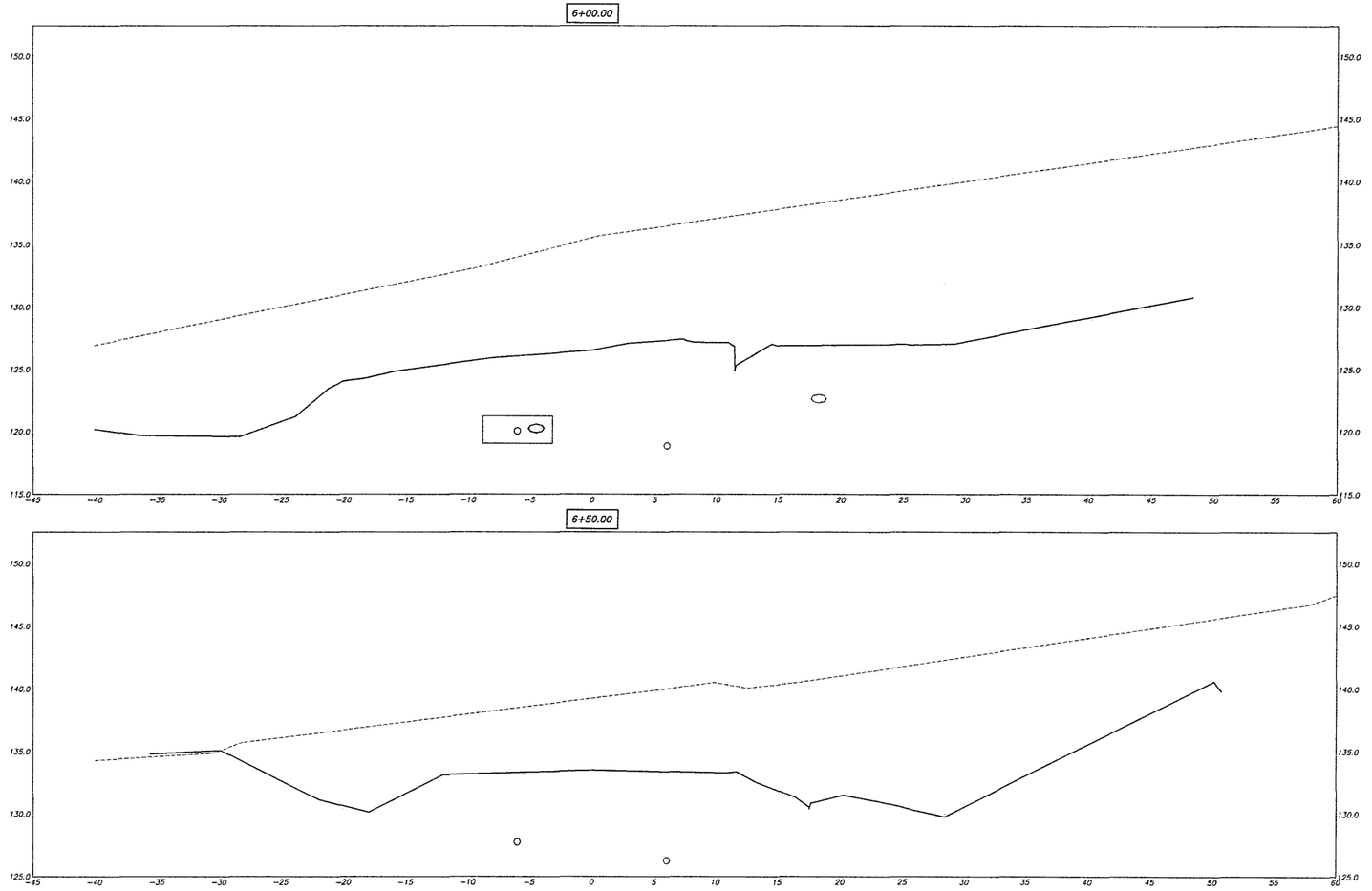
STATE OF ALASKA
49th
JOEL P. TEUNE
121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SECTION VIEWS

S1

SHEET:
26 of 29





REVISIONS:

SEET KANAX DUTEEN
DEVELOPMENT PLAN

STATUS:
35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #:222321.10

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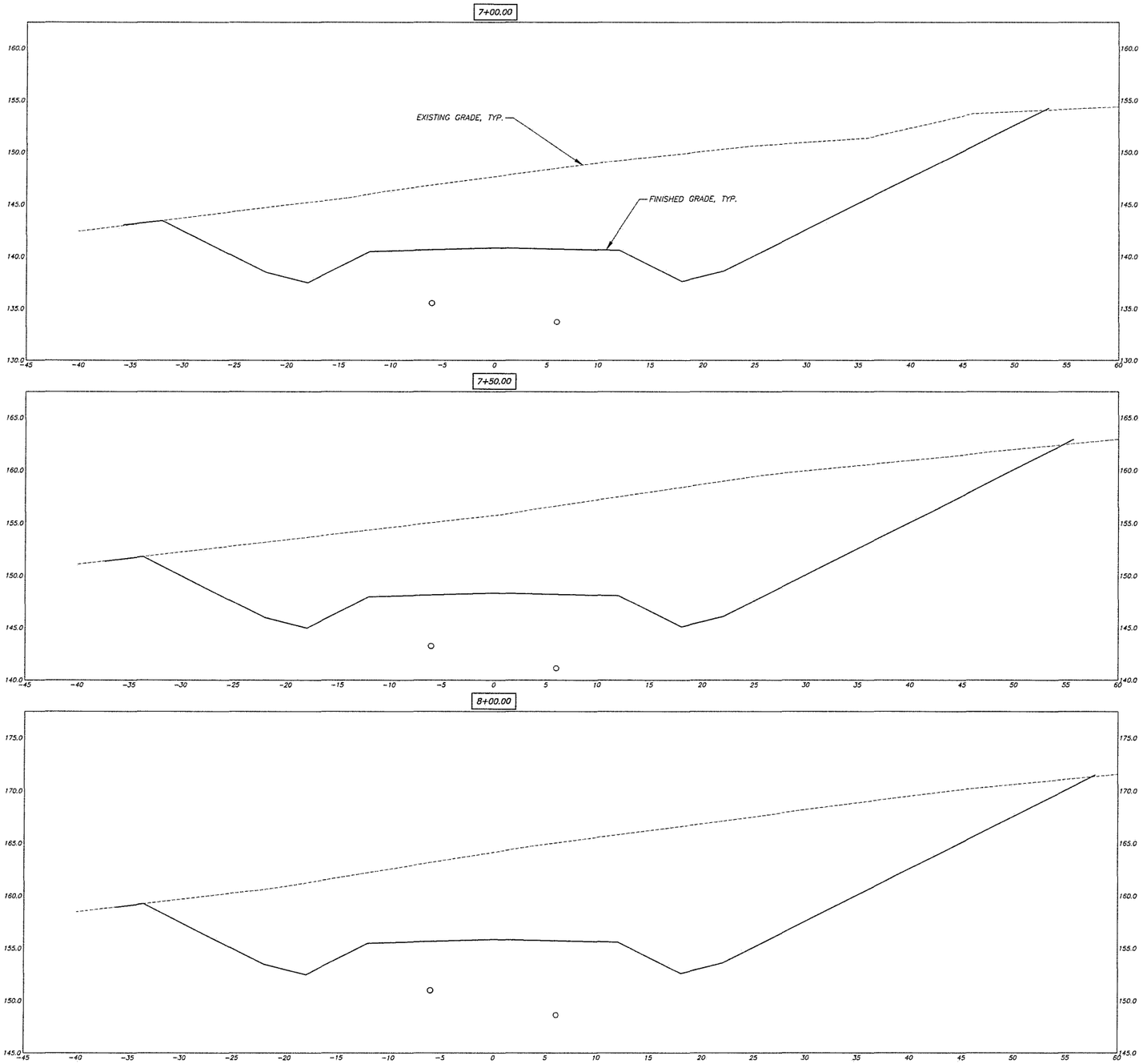
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
JOEL P. TEUNE
121948
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SECTION VIEWS

S2

SHEET:
27 of 29



REVISIONS:

SEET KANAX DUTEEN
DEVELOPMENT PLAN

STATUS:
35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #:222321.10

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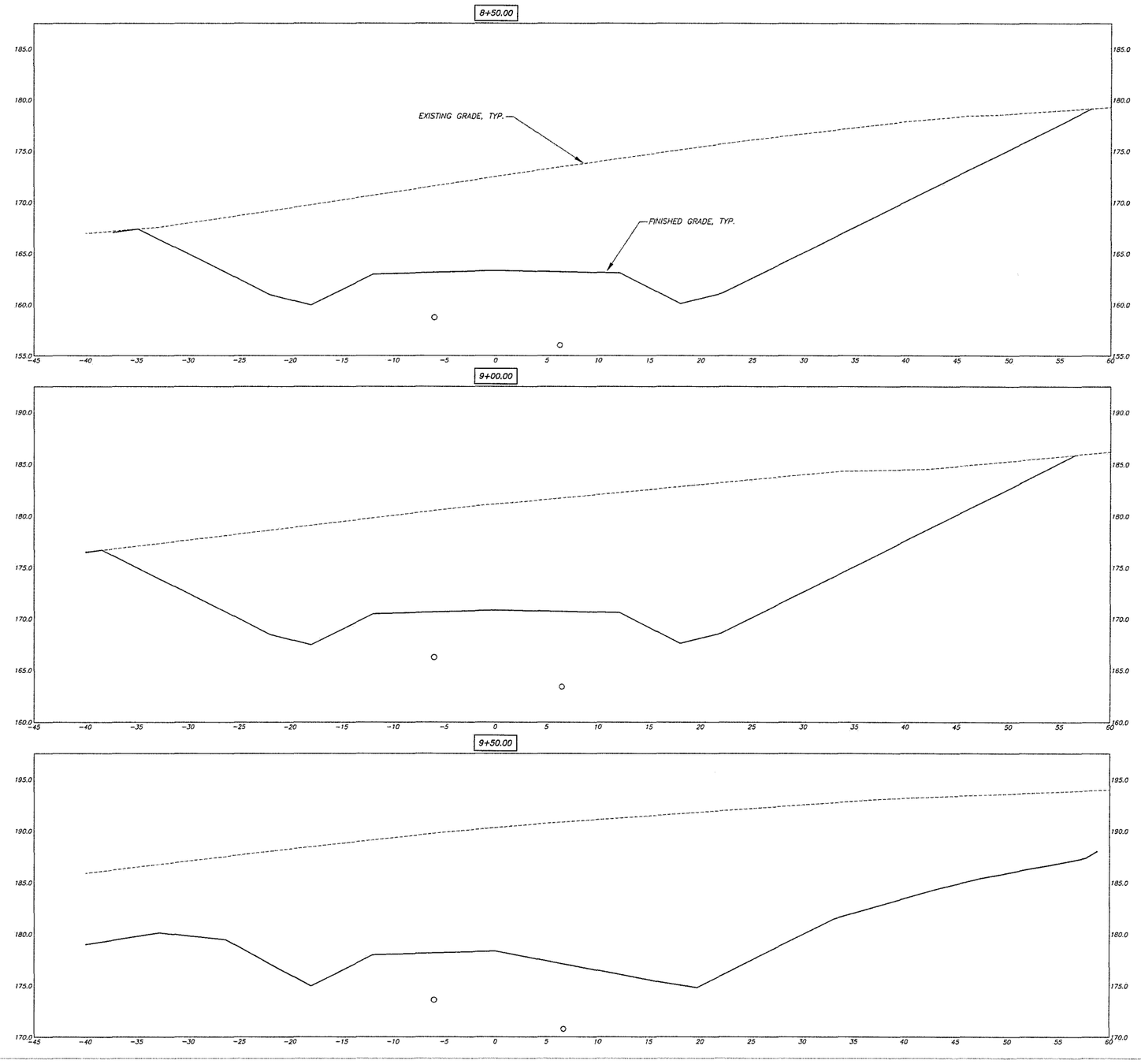
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
JOEL P. TEUNE
121948
PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SECTION VIEWS

S3

SHEET:
28 of 29



REVISIONS:

SEET KANAX DUTEEN
DEVELOPMENT PLAN

STATUS:
35%

DRAWN BY: JPT
CHECKED BY: JPT
DATE: 10/18/2023
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
JOEL P. TEUNE
12194B
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SECTION VIEWS

S4

SHEET:
29 of 29

GENERAL NOTES

1) THE PURPOSE OF THIS PLAT IS TO SUBDIVIDE TRACT II, USS 2135 AS SHOWN ON PLAT NO. 273 INTO LOTS 1-25 AND TRACT A&B. SEET KANAX DUTEET SUBDIVISION.

2) TOTAL AREA = 767,527.6

3) PARCELS CREATED BY THIS PLAT:
LOTS 1-25, SEET KANAX DUTEEN SUBDIVISION
TRACT A, SEET KANAX DUTEEN SUBDIVISION
TRACT B, SEET KANAX DUTEEN SUBDIVISION

4) THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION HAS SUSPENDED THEIR PROGRAM OF SUBDIVISION PLAN REVIEW AT THE TIME OF THIS SURVEY. CONTACT ADEC FOR INFORMATION ABOUT THEIR REQUIREMENTS FOR DEVELOPMENT OF LOTS WITHIN THIS SUBDIVISION.

5) THE DATE OF THE FIELD SURVEY WAS _____

6) THIS SURVEY IS SUBJECT TO:
A) PLAT NO. 269, J.R.D.
B) PLAT NO. 273, J.R.D.
C) PLAT NO. 325, J.R.D.
D) PLAT NO. 83-31, J.R.D.
E) PLAT NO. 94-22, J.R.D.
F) PLAT NO. 96-25, J.R.D.
G) PLAT NO. 2006-6, J.R.D.
H) PLAT NO. 2014-43, J.R.D.

7) THIS SURVEY IS SUBJECT TO:
A) EASEMENTS AND NOTES RECORDED JUNE 6, 1951 IN MISCELLANEOUS BOOK 26 AT PAGE 515 FOR THE PURPOSES OF THE CONSTRUCTION, MAINTENANCE, REPAIR, RECONSTRUCTION, AND USE OF ELECTRICAL TRANSMISSION AND DISTRIBUTION SYSTEM.
B) RESERVATION OF EASEMENT FOR HIGHWAY PURPOSES, AND ANY ASSIGNMENTS OR USES THEREOF FOR RECREATIONAL, UTILITY OR OTHER PURPOSES, AS DISCLOSED BY PUBLIC LAND ORDER NO. 601, DATED AUGUST 10, 1949, AND AMENDED BY PUBLIC LAND ORDER NO. 757, DATED OCTOBER 10, 1950; PUBLIC LAND ORDER NO. 842, DATED JUNE 19, 1952; PUBLIC LAND ORDER NO. 1613, DATED APRIL 17, 1958; AND DEPARTMENT OF THE INTERIOR ORDER NO. 2665, DATED OCTOBER 16, 1951, AMENDMENT NO. 1 THERETO, DATED JULY 17, 1952 AND AMENDMENT NO. 2 THERETO, DATED SEPTEMBER 15, 1956, FILED IN THE FEDERAL REGISTER.

8) ZONING FOR THE SUBJECT PROPERTIES IS D18

9) THE CLOSURE ERROR OF THIS SURVEY DOES NOT EXCEED 1:5000.

10) ALL BEARINGS SHOWN ARE TRUE BEARINGS AS ORIENTED TO THE BASIS OF BEARINGS AND DISTANCES SHOWN ARE REDUCED TO HORIZONTAL FIELD DISTANCES.

11) THIS PLAT HAS BEEN PREPARED WITH THE AID OF A CERTIFICATE TO PLAT FROM ALASKA ESCROW AND TITLE INSURANCE AGENCY, INC. FILE NO. 67154

OWNER'S CERTIFICATE

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY AS SHOWN HERE ON AND THAT I APPROVE THE PLAT OF THIS SURVEY.

OWNER: THRHA DATE

NOTARY ACKNOWLEDGMENT

STATE OF ALASKA
FIRST JUDICIAL DISTRICT

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS DAY OF _____, 2023

BY: _____

(SIGNER'S NAME, PRINTED BY NOTARY)

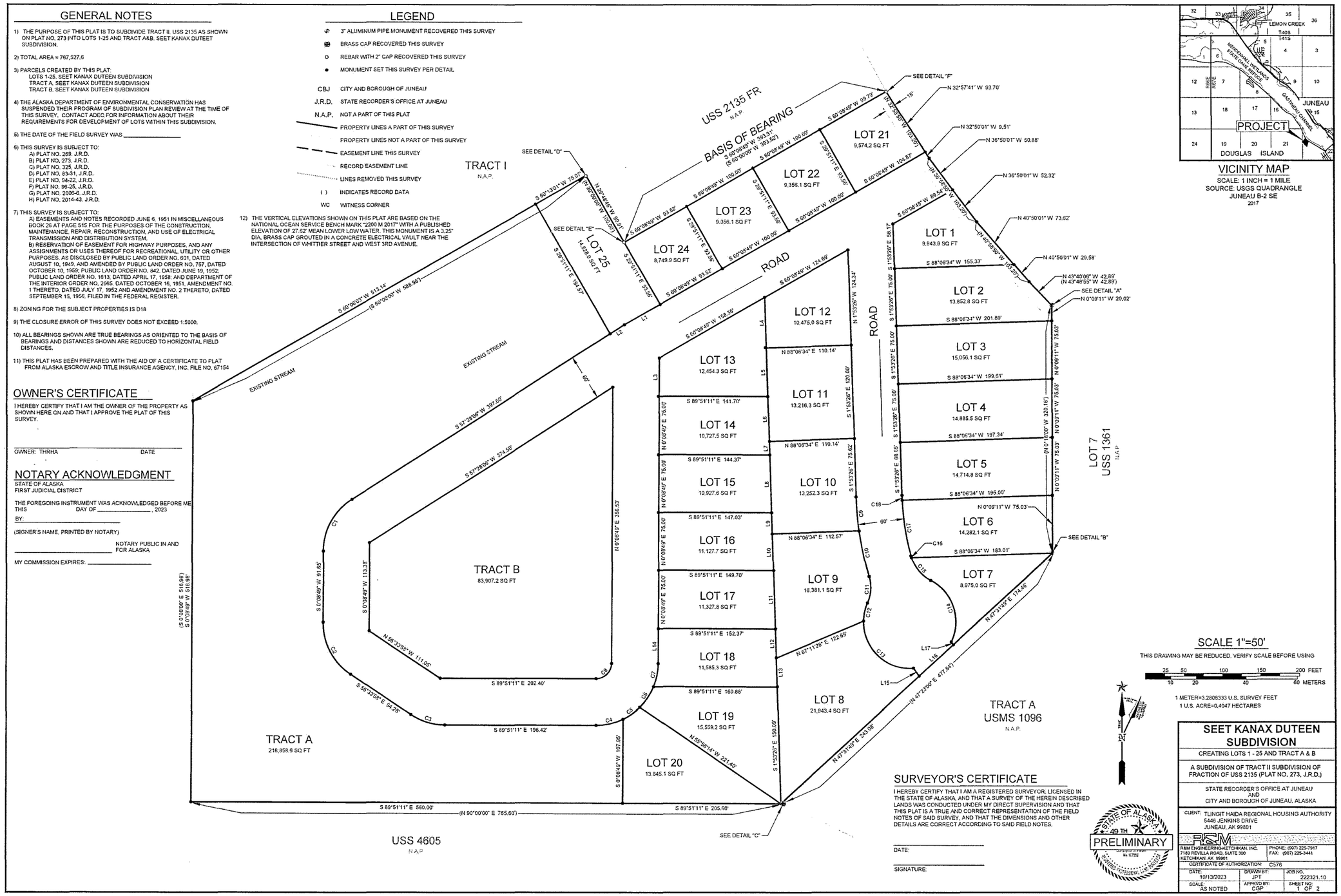
_____ NOTARY PUBLIC IN AND FOR ALASKA

MY COMMISSION EXPIRES: _____

LEGEND

- 3" ALUMINUM PIPE MONUMENT RECOVERED THIS SURVEY
- BRASS CAP RECOVERED THIS SURVEY
- REBAR WITH 2" CAP RECOVERED THIS SURVEY
- MONUMENT SET THIS SURVEY PER DETAIL
- CBJ CITY AND BOROUGH OF JUNEAU
- J.R.D. STATE RECORDER'S OFFICE AT JUNEAU
- N.A.P. NOT A PART OF THIS PLAT
- PROPERTY LINES A PART OF THIS SURVEY
- PROPERTY LINES NOT A PART OF THIS SURVEY
- EASEMENT LINE THIS SURVEY
- RECORD EASEMENT LINE
- LINES REMOVED THIS SURVEY
- ( ) INDICATES RECORD DATA
- WC WITNESS CORNER

12) THE VERTICAL ELEVATIONS SHOWN ON THIS PLAT ARE BASED ON THE NATIONAL OCEAN SERVICE BENCH MARK "2200 M 2017" WITH A PUBLISHED ELEVATION OF 27.62' MEAN LOWER LOW WATER. THIS MONUMENT IS A 3.25" DIA. BRASS CAP GROUTED IN A CONCRETE ELECTRICAL VAULT NEAR THE INTERSECTION OF WHITTIER STREET AND WEST 3RD AVENUE.



VICINITY MAP
SCALE: 1 INCH = 1 MILE
SOURCE: USGS QUADRANGLE
JUNEAU B-2 SE
2017

SCALE 1"=50'

THIS DRAWING MAY BE REDUCED. VERIFY SCALE BEFORE USING

25 50 100 150 200 FEET
10 20 40 60 METERS

1 METER=3.2808333 U.S. SURVEY FEET
1 U.S. ACRE=0.4047 HECTARES

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT THE DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.

DATE: _____

SIGNATURE: _____

STATE OF ALASKA 49 TH
PRELIMINARY

SEET KANAX DUTEEN SUBDIVISION

CREATING LOTS 1 - 25 AND TRACT A & B

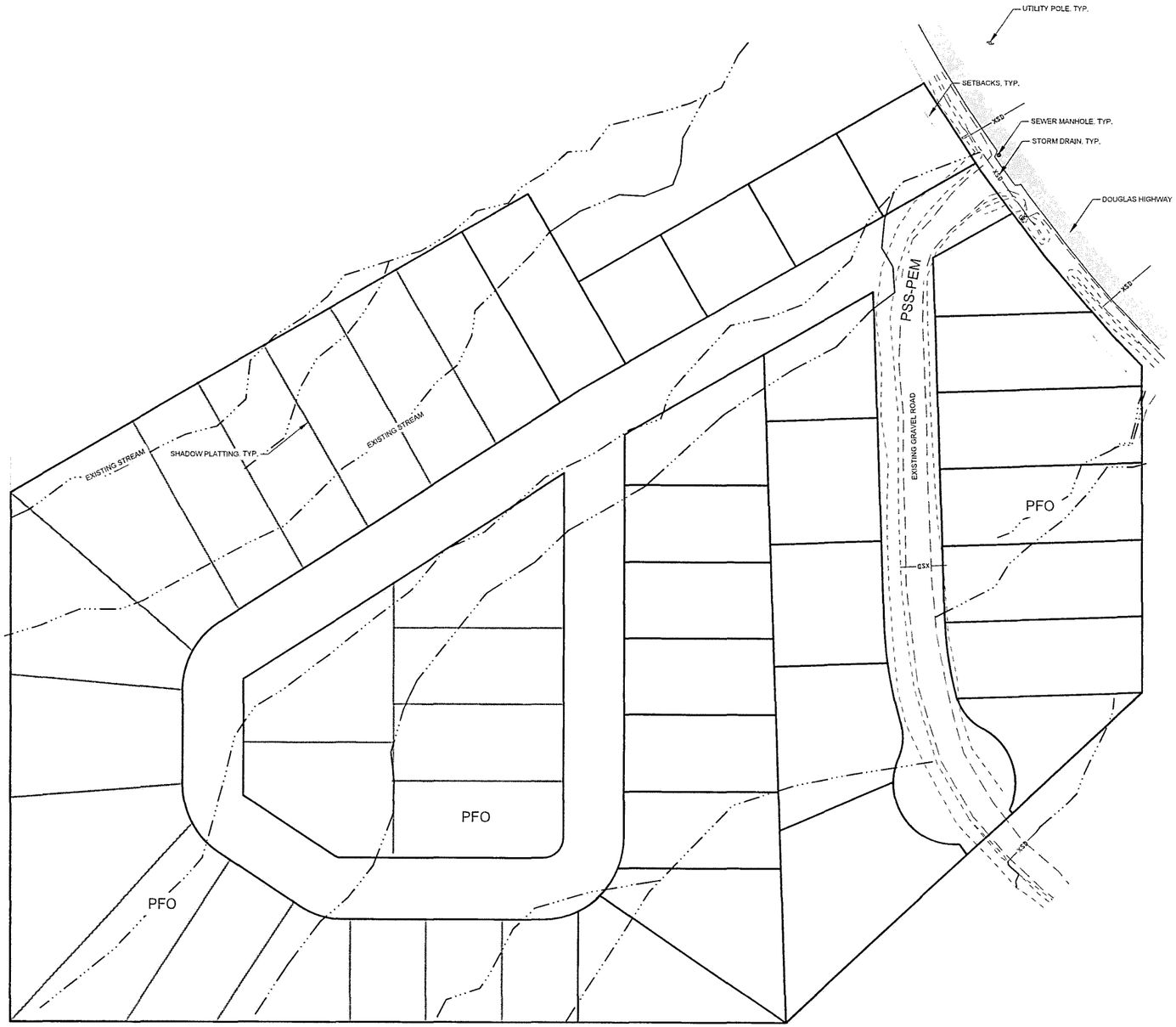
A SUBDIVISION OF TRACT II SUBDIVISION OF FRACTION OF USS 2135 (PLAT NO. 273, J.R.D.)

STATE RECORDER'S OFFICE AT JUNEAU
AND
CITY AND BOROUGH OF JUNEAU, ALASKA

CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801

R&M ENGINEERING-KETCHIKAN, INC.
7160 REVILLA ROAD, SUITE 300
KETCHIKAN, AK 99901
PHONE: (907) 225-7917
FAX: (907) 225-3441

CERTIFICATE OF AUTHORIZATION:	CS76	
DATE: 10/13/2023	DRAWN BY: JPT	JOB NO. 222321.10
SCALE: AS NOTED	APPROVED BY: CGP	SHEET NO. 1 OF 2



SCALE 1"=50'

THIS DRAWING MAY BE REDUCED, VERIFY SCALE BEFORE USING

25 50 100 150 200 FEET
10 20 40 60 METERS

1 METER=3.2808333 U.S. SURVEY FEET
1 U.S. ACRE=0.4047 HECTARES

SEET KANAX DUTEEN SUBDIVISION

CREATING LOTS 1 - 25 AND TRACT A & B

A SUBDIVISION OF TRACT II SUBDIVISION OF FRACTION OF USS 2135 (PLAT NO. 273, J.R.D.)

STATE RECORDER'S OFFICE AT JUNEAU
AND
CITY AND BOROUGH OF JUNEAU, ALASKA

CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801

STATE OF ALASKA 49 TH WORKSHEET

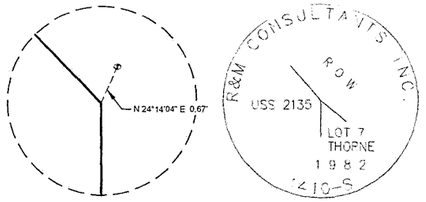
R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, AK 99901

PHONE: (907) 225-7917
FAX: (907) 225-3441

CERTIFICATE OF AUTHORIZATION: C576

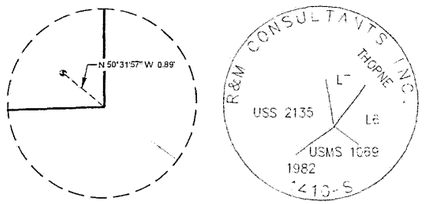
DATE:	DRAWN BY:	JOB NO.
10/13/2023	JPT	222321.10
SCALE: AS NOTED	APPROVED BY: CCP	

DETAIL "A"



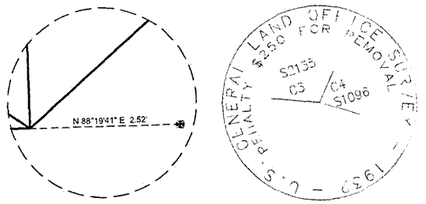
RECOVERED 5/8" DIA. REBAR WITH 3.25" DIA. ALUMINUM CAP PROJECTING 4" ABOVE GROUND IN GOOD CONDITION.

DETAIL "B"



RECOVERED 5/8" DIA. REBAR WITH 3.25" DIA. ALUMINUM CAP PROJECTING 12" ABOVE GROUND IN GOOD CONDITION.

DETAIL "C"



RECOVERED 2.5" DIA. POST MON. WITH 3.25" DIA. BRASS CAP PROJECTING 12" ABOVE GROUND IN GOOD CONDITION

DETAIL "D"

RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP FLUSH TO GROUND IN GOOD CONDITION

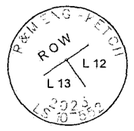
DETAIL "E"

RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP PROJECTING 2" ABOVE GROUND IN GOOD CONDITION

DETAIL "F"

RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP PROJECTING FLUSH TO GROUND IN GOOD CONDITION

TYPICAL MONUMENT SET



5/8"x30" LONG REBAR AND 2" ALUMINUM CAP WITH PLASTIC INSERT SET THIS SURVEY

DETAIL "2200 M 2017"

RECOVERED 3.25" DIA. BRASS CAP GROUTED IN CONCRETE FLUSH TO GROUND IN GOOD CONDITION.

LINE TABLE

LINE #	LENGTH	BEARING
L1	53.46	S60° 08' 48.53"W
L2	21.56	S57° 28' 05.74"W
L3	49.10	N0° 08' 48.53"E
L4	65.88	N1° 53' 25.65"W
L5	62.48	N1° 53' 25.65"W
L6	57.52	N1° 53' 25.65"W
L7	17.52	N1° 53' 25.65"W
L8	75.05	N1° 53' 25.65"W
L9	27.43	N1° 53' 25.65"W
L10	47.62	N1° 53' 25.65"W
L11	75.05	N1° 53' 25.65"W
L12	37.52	N1° 53' 25.65"W
L13	37.52	S1° 53' 25.65"E
L14	45.00	N0° 08' 48.53"E
L15	12.60	N35° 01' 11.43"W
L16	60.30	N47° 31' 48.53"E
L17	4.50	S35° 47' 23.14"E

CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	80.04	80.00	57.32	S28° 48' 27"W	76.74
C2	79.19	80.00	56.71	S28° 12' 35"E	75.99
C3	46.48	80.00	33.29	S73° 12' 35"E	45.83
C4	35.97	80.00	25.76	N77° 15' 52"E	35.67
C5	26.86	80.00	19.24	N54° 45' 52"E	26.73
C6	32.68	80.00	22.98	N33° 39' 32"E	31.87
C7	30.75	80.00	22.02	N11° 09' 32"E	30.56
C8	31.42	20.00	90.00	N45° 08' 49"E	28.28
C9	44.47	405.00	6.29	S5° 02' 09"E	44.45
C10	60.24	405.00	8.52	S12° 26' 32"E	60.18
C11	35.19	50.00	40.33	N3° 27' 41"E	34.47
C12	23.78	60.00	22.70	S12° 16' 26"W	23.62
C13	100.22	60.00	95.70	S46° 55' 43"E	88.97
C14	92.25	60.00	88.09	N18° 46' 18"W	83.43
C15	39.21	50.00	44.93	S40° 21' 18"E	38.21
C16	2.41	50.00	2.76	S16° 30' 42"E	2.41
C17	73.38	345.00	12.19	S9° 02' 18"E	73.24
C18	6.35	345.00	1.05	S2° 25' 04"E	6.35

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR LICENSED IN THE STATE OF ALASKA, AND THAT A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT THE DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.

DATE:

SIGNATURE:

STATE OF ALASKA
49 TH
PRELIMINARY

SEET KANAX DUTEEN SUBDIVISION

CREATING LOTS 1 - 25 AND TRACT A & B

A SUBDIVISION OF TRACT II SUBDIVISION OF FRACTION OF USS 2135 (PLAT NO. 273, J.R.D.)

STATE RECORDER'S OFFICE AT JUNEAU
AND
CITY AND BOROUGH OF JUNEAU, ALASKA

CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, AK 99901
PHONE: (907) 225-7917
FAX: (907) 225-3441

CERTIFICATE OF AUTHORIZATION: C575

DATE	DRAWN BY:	JOB NO.
10/13/2023	JPT	222321.10
SCALE	APPVD BY:	SHEET NO.
AS NOTED	CGP	2 OF 2

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
REGULATORY DIVISION
P.O. BOX 22270
JUNEAU, AK 99802-2270

March 14, 2025

Regulatory Division
POA-2023-00089

Ms. Diana Parks
Tlingit Haida Regional Housing Authority
5446 Jenkins Drive
Juneau, Alaska 99801

Dear Ms. Parks:

Enclosed is the signed Department of the Army (DA) permit, file number POA- 2023- 00089, Grant Creek, which authorizes the placement of fill material into waters of the United States, including wetlands, to construct a residential housing development. The project site is located within Section 22, T. 41 S., R. 67 E., Copper River Meridian; USGS Quad Map Juneau B-2; Latitude 58.3025º N., Longitude 134.4504º W.; Seet Kanax Duteen Subdivision, in Juneau, Alaska. Also enclosed is a Notice of Authorization which should be posted in a prominent location near the authorized work.

If changes to the plans or location of the work are necessary for any reason, plans must be submitted to us immediately. Federal law requires approval of any changes before construction begins.

Nothing in this letter excuses you from compliance with other Federal, State, or local statutes, ordinances, or regulations.

Please contact me via email at Randal.P.Vigil@usace.army.mil, by mail at the address above, or by phone at (907) 201-5022, if you have questions or to request a hard copy of this letter and enclosures. For more information about the Regulatory Program, please visit our website at www.poa.usace.army.mil/Missions/Regulatory.

Sincerely,

Randal P. Vigil
Chief, Southeast Section

Enclosures

This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers
Grant Creek

A permit to: place fill material into waters of the United States, including wetlands to construct a residential housing development

at: Seet Kanax Duteen Subdivision, in Juneau, Alaska

has been issued to: Tlingit Haida Regional Housing Authority

on: March 14, 2025, and expires: March 31, 2030.

Address of Permittee: 5446 Jenkins Drive, Juneau, AK 99801.

Permit Number:

POA-2023-00089

FOR: ***District Commander***
Randal P. Vigil
Chief, Southeast Section
REGULATORY DIVISION

ENG FORM 4336, Jul 81 (33 CFR 320-330) EDITION OF JUL 70 MAY BE USED (Proponent: CECW-O)

DEPARTMENT OF THE ARMY PERMIT

Permittee: Tlingit Haida Regional Housing Authority

Permit No.: POA-2023-00089 Grant Creek

Issuing Office: U.S. Army Engineer District, Alaska

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The construction of a housing subdivision project within the City and Borough of Juneau on Douglas Island. The development of the property for residential housing will include 40 lots total (5 acres of wetlands and 2,245 linear feet of stream within the total 17.62 acre project area). All lots will require the addition of water, sewer, and electrical service lines to be placed with access to existing utility tie-ins along North Douglas Highway. Total wetland fill amounts include 48,500 cubic yards shot rock and 12,200 cubic yards of D-1 gravel.

All work will be performed in accordance with the attached plan, sheets 1-6, dated 10-7-24.

Project Location: Section 22, T. 41 S., R. 67 E., Copper River Meridian; USGS Quad Map Juneau B-2; Latitude 58.3025º N., Longitude 134.4504º W.; Seet Kanax Duteen Subdivision, in Juneau, Alaska.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **March 31, 2030**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. Prior to commencing the work authorized by this permit, the Permittee shall purchase 1.675 Palustrine credits from the approved credit provider for the loss of 5 acres of Palustrine wetlands/streams. You must email the signed credit transaction form to mitigationmanager@usace.army.mil and to Randal.P.Vigil@usace.army.mil upon completion of credit transaction. If you are unable to complete this transaction, you are required to obtain a permit modification prior to commencing the work authorized by this permit for approval of an alternate mitigation method.

2. Within 60 days of completion of the work authorized by this permit, the Permittee shall complete the attached “Self-Certification Statement of Compliance” form and submit it to the Corps. In the event that the completed work deviates in any manner from the authorized work, the Permittee shall describe the deviations between the work authorized by this permit and the work as constructed on the “Self-Certification Statement of Compliance” form. The description of any deviations on the “Self-Certification Statement of Compliance” form does not constitute approval of any deviations by the Corps.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorization required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a revaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

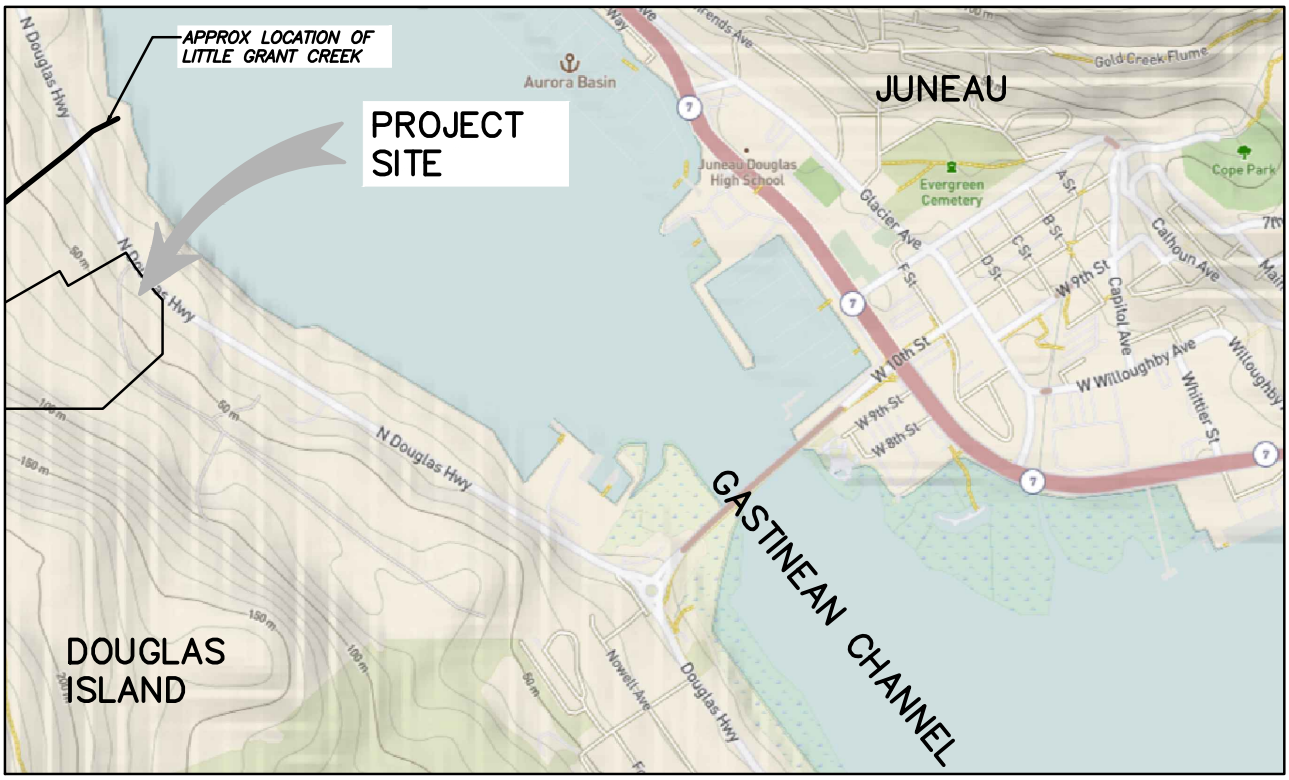
Diana Parks — 03/14/2025
Diana Parks (DATE)
Tlingit Haida Regional Housing Authority

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

March 14, 2025
FOR (DISTRICT COMMANDER) (DATE)
Colonel Jeffrey S. Palazzini
Randal P. Vigil
South Branch, Regulatory Division

When the structures or work authorized by this permit are still in existence at the time the property is transferred the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions have the transferee sign and date below.

(TRANSFEREE) (DATE)



POA-2023-00089 Grant Creek

PROJECT LOCATION MAP

NOT TO SCALE

VICINITY MAP

APPLICATION BY:
TLINGIT–HAIDA REGIONAL HOUSING AUTHORITY 5446 JENKINS DRIVE JUNEAU, AK 99801

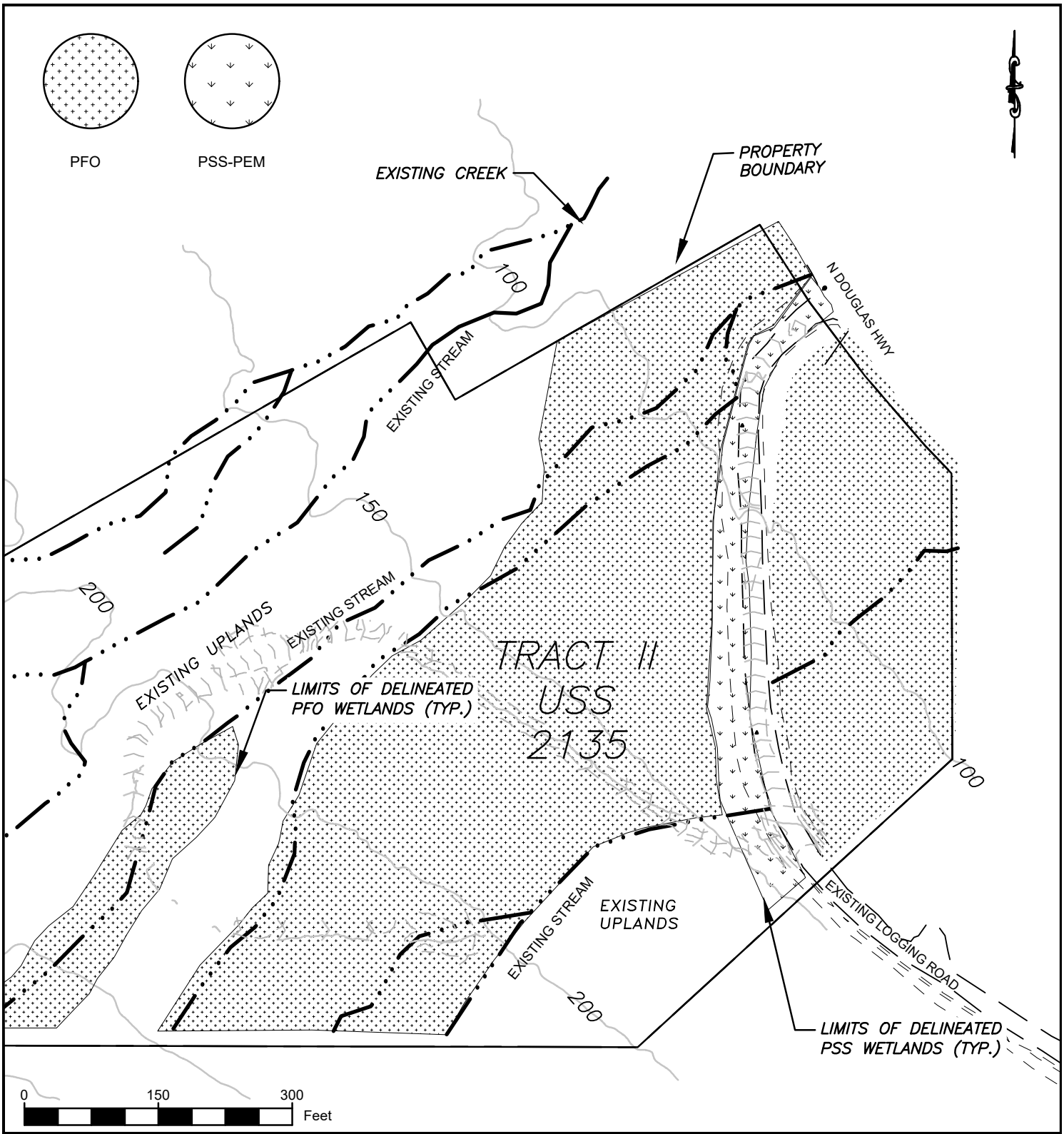
THRHA JUNEAU

AT: JUNEAU

LOCATED IN: TRACT II, USS 2135 JUNEAU
Lat 58°18'8"N, Long. 134°27'4"W

DATE: 10–7–24

SHEET 1



EXISTING CONDITIONS

APPLICATION BY:
TLINGIT–HAIDA REGIONAL HOUSING AUTHORITY 5446 JENKINS DRIVE JUNEAU, AK 99801

THRHA JUNEAU

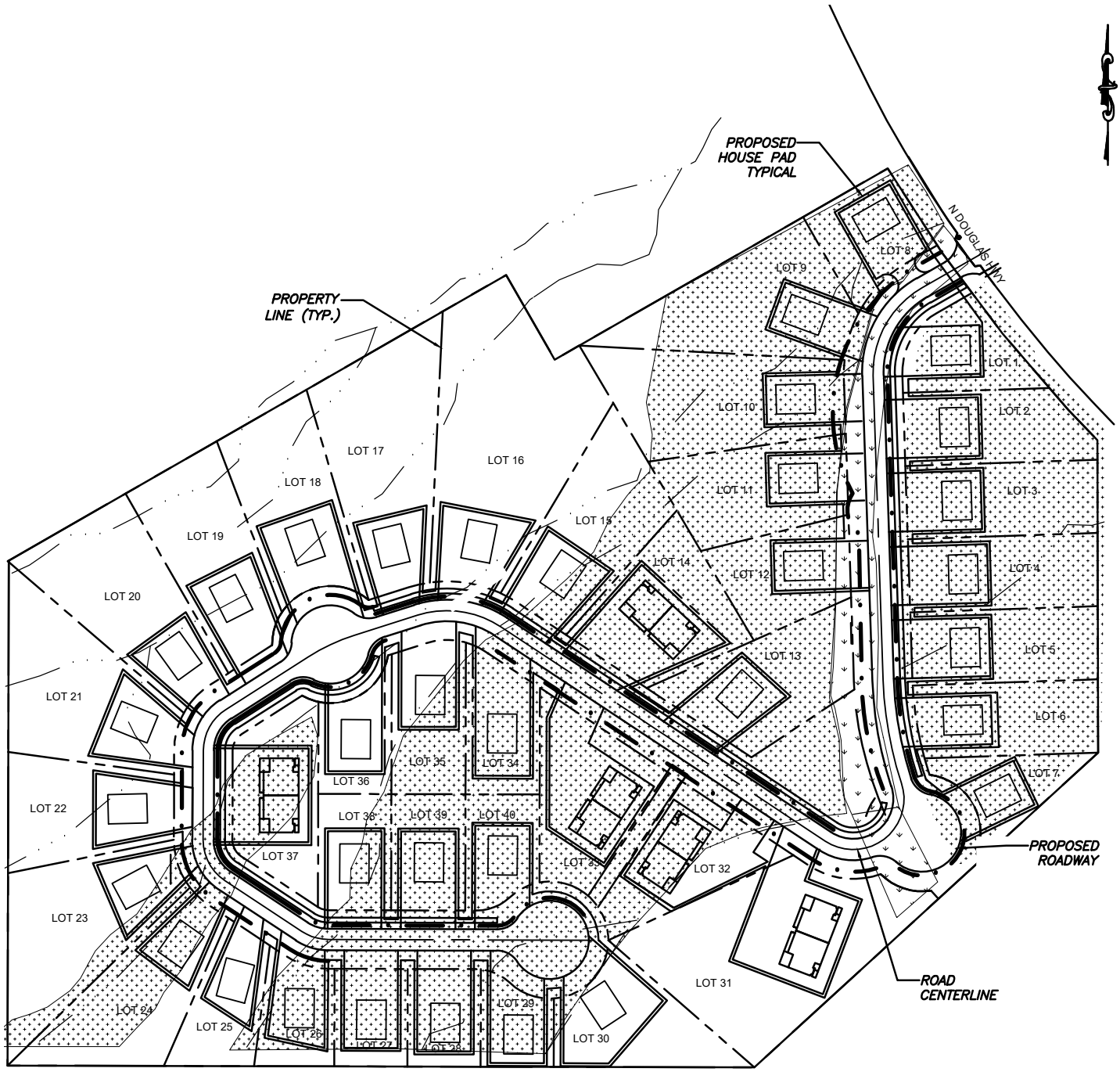
POA-2023-00089 Grant Creek

AT: JUNEAU

LOCATED IN: TRACT II, USS 2135 JUNEAU
Lat 58°18'8"N, Long. 134°27'4"W

DATE: 10–7–24

SHEET 2



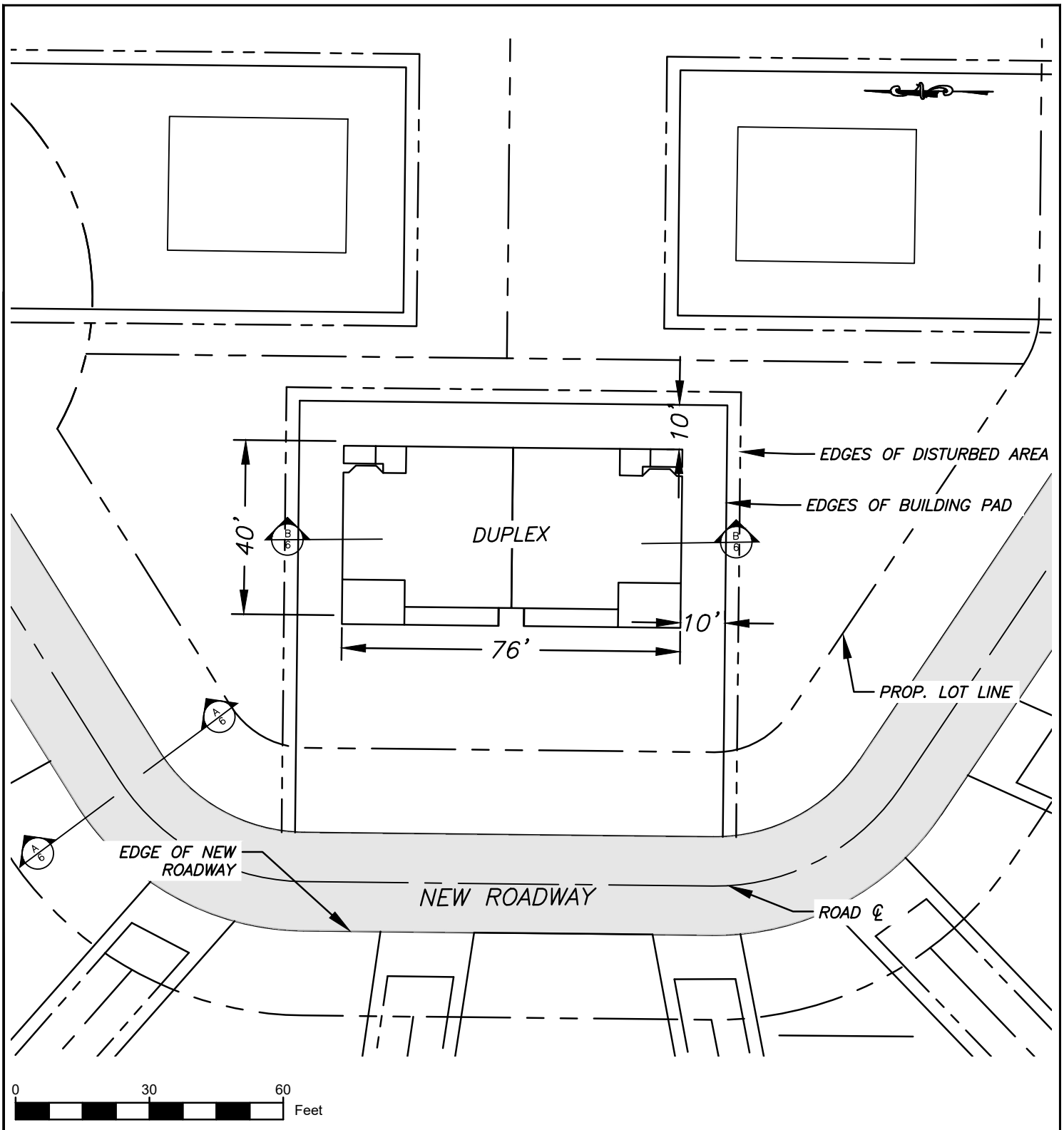
TOTAL LOTS DEVELOPED: 40
TOTAL PROJECT AREA: 17.62 ACRES
TOTAL AREA DISTURBED: 8.12 ACRES
PROJECT AREA IN WETLANDS:
PFO= 3.53 ACRES
PSS–PEM= 0.68 ACRES
TOTAL ROAD LENGTH: 2025 LF
ROAD LENGTH IN WETLANDS: 1400 LF
STREAM LENGTH IMPACTED: 2245 LF

SITE PLAN

APPLICATION BY:
TLINGIT–HAIDA REGIONAL HOUSING AUTHORITY 5446 JENKINS DRIVE JUNEAU, AK 99801

THRHA JUNEAU
POA-2023-00089 Grant Creek
AT: JUNEAU
LOCATED IN: TRACT II, USS 2135 JUNEAU
Lat 58°18'8"N, Long. 134°27'4"W

DATE: 10–7–24 SHEET 3

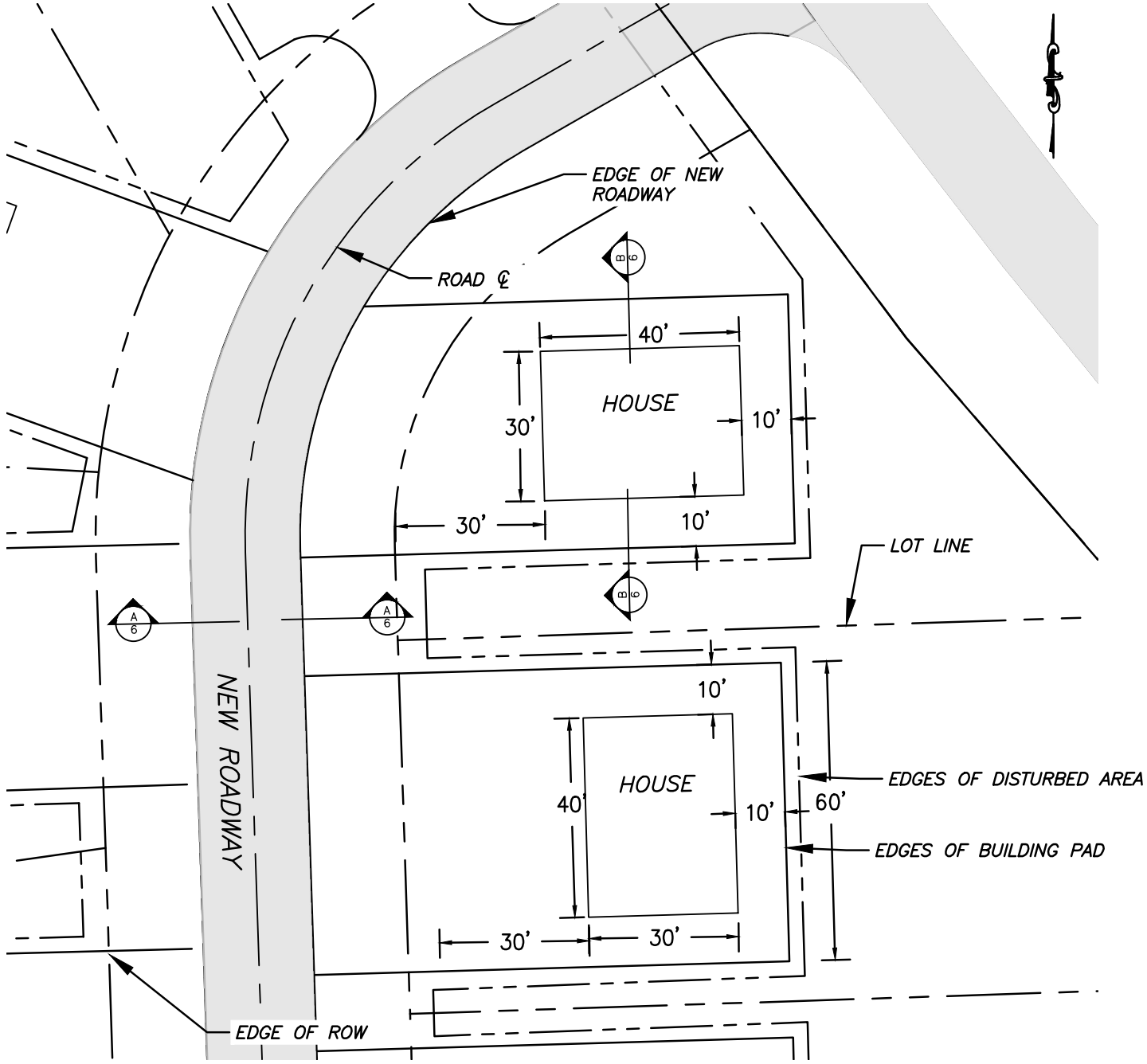


TYPICAL DUPLEX LOT BUILDING PAD

APPLICATION BY:
TLINGIT–HAIDA REGIONAL HOUSING AUTHORITY 5446 JENKINS DRIVE JUNEAU, AK 99801

THRHA JUNEAU
POA-2023-00089 Grant Creek
AT: JUNEAU
LOCATED IN: TRACT II, USS 2135 JUNEAU
Lat 58°18'8"N, Long. 134°27'4"W

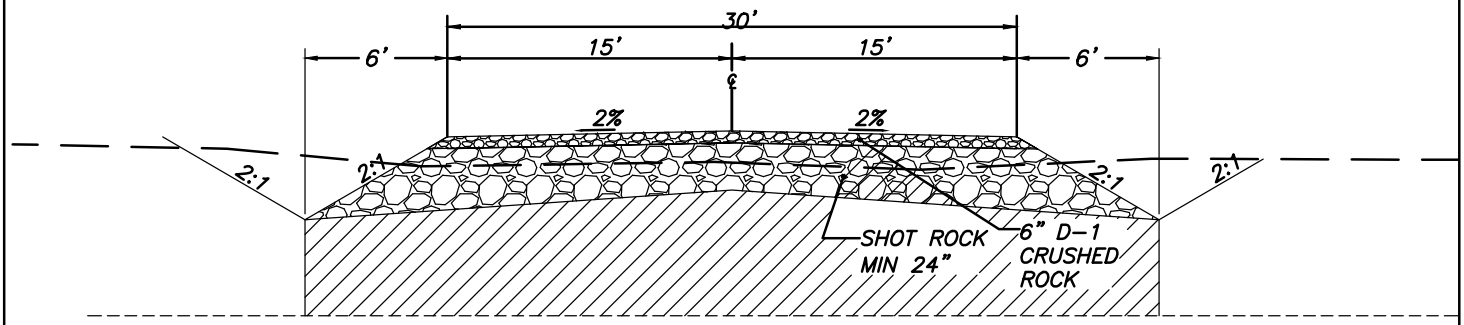
DATE: 10–7–24 SHEET 4



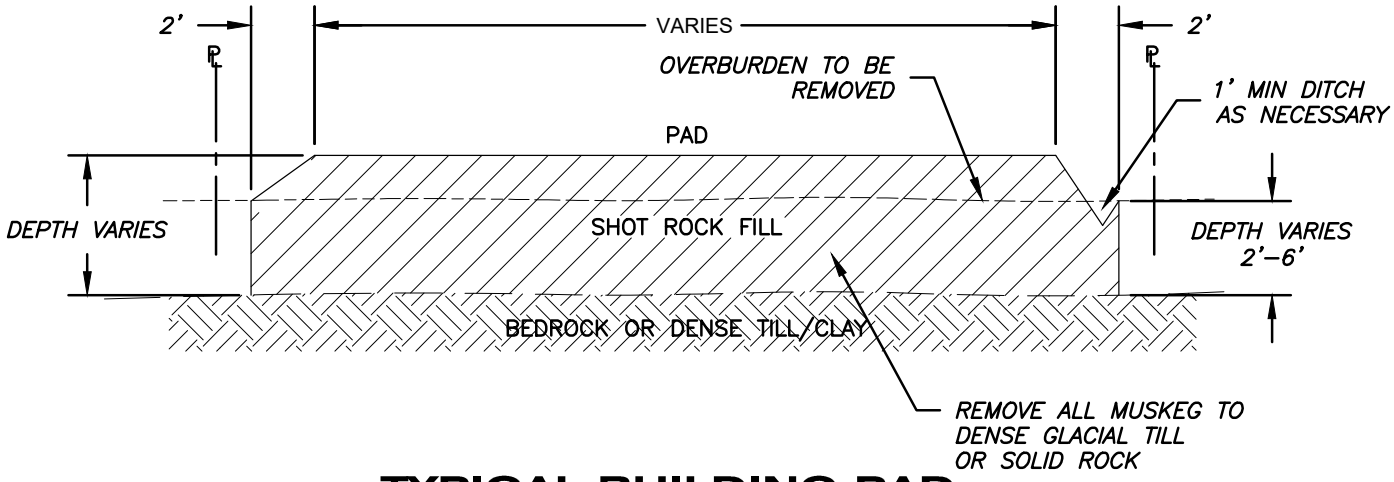
TYPICAL SINGLE LOT BUILDING PAD

APPLICATION BY:
TLINGIT–HAIDA REGIONAL HOUSING AUTHORITY 5446 JENKINS DRIVE JUNEAU, AK 99801

THRHA JUNEAU
POA-2023-00089 Grant Creek
AT: JUNEAU
LOCATED IN: TRACT II, USS 2135 JUNEAU
Lat 58°18'8"N, Long. 134°27'4"W
DATE: 10–7–24 SHEET 5



TYPICAL ROAD SECTION
A-A



TYPICAL BUILDING PAD
B-B

TYPICAL SECTIONS

APPLICATION BY:
TLINGIT-HAIDA REGIONAL
HOUSING AUTHORITY 5446
JENKINS DRIVE JUNEAU, AK
99801

THRHA JUNEAU
POA-2023-00089 Grant Creek
AT: JUNEAU
LOCATED IN: TRACT II, USS 2135 JUNEAU
Lat 58°18'8"N, Long. 134°27'4"W
DATE: 10-7-24 SHEET 6

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation
DIVISION OF WATER
Wastewater Discharge Authorization Program

555 Cordova Street
Anchorage, Alaska 99501-2617
Main: 907.269.6285
Fax: 907.334.2415
www.dec.alaska.gov/wastewater

February 5, 2025

Tlingit Haida Regional Housing Authority
Attn: Diana Parks, Environmental Review Administrator
5446 Jenkins Drive
Juneau, AK 99801

Re: Tlingit Haida Regional Housing Authority, Séet Kanax̲ Dutéen Subdivision
POA-2023-00089 v1.0, Grant Creek

Ms. Parks,

In accordance with Section 401 of the Federal Clean Water Act and provisions of the Alaska Water Quality Standards, the Department of Environmental Conservation (DEC) is issuing the enclosed water quality certification with conditions that the discharge from the proposed project will comply with water quality requirements for dredging and/or fill material in waters of the U.S., authorized by an Army Corps of Engineers (USACE) permit/license POA-2023-00089 - *Séet Kanax̲ Dutéen Subdivision* project.

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page https://dec.alaska.gov/commish/review-guidance/ for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

By copy of this letter we are advising the U.S. Army Corps of Engineers of our actions and enclosing a copy of the certification for their use.

If you have any questions regarding the attached certification, please contact Willow Weimer at 907-269-6096, dec-401cert@alaska.gov.

Sincerely,

Nick Waldo
Program Manager, Storm Water and Wetlands

Enclosure: 401 Water Quality Certificate

cc: (with encl.)
Delana Wilks, USACE
Farren Linne, R&M Engineering
Diana Parks, THRHA
Kate Kanouse, ADF&G
USFWS Field Office Juneau
Matthew LaCroix, EPA AK Operations
Jeffrey Brittain, EPA AK Operations

Reference EDMS Submission Ref Nbr: HQ7-CHB9-4DVN8, Rcv 10/14/2024 1:55:00 PM

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Water Quality Certification

In accordance with Section 401 of the Federal Clean Water Act (CWA) and the Alaska Water Quality Standards (18 AAC 70), a water quality certification with conditions is issued to the Tlingit Haida Regional Housing Authority, Attn: Diana Parks, 5446 Jenkins Drive, Juneau AK 99801 for a permit/license to be issued by Army Corps of Engineers (USACE), reference POA-2023-00089 – *Séet Kanax̲ Dutéen Subdivision.*

Based upon the review of the federal application, readily available water quality-related materials, and certification request[1] in accordance with the CWA § 121.5(b) and (c), and 121.7 (c), DEC certifies that if the permittee complies with the terms and conditions imposed by the permit and the conditions set forth in this water quality certification, then it is reasonable for DEC to conclude that the activity will comply with water quality requirements, including applicable requirements of the CWA §§ 301, 302, 303, 306, and 307, Alaska's Water Quality Standards (WQS, 18 AAC 70) and other appropriate water quality requirements of state law.

The scope of certification is limited to the water quality-related impacts of the activity subject to the Federal license or permit (40 CFR 121.3, 18 AAC 15.180). Public notice of the application for this certification was given as required by 18 AAC 15.180 in the DEC Public Notice POA-2023-00089 posted from 10/28/2024 to 11/28/2024, and 01/03/2025 to 02/02/2025.

Project Purpose, Description, and Location

Project Name: Séet Kanax̲ Dutéen Subdivision

Dates of the proposed activity are planned to begin and end: 11/01/2024 to 12/31/2033

Location: The proposed activity is located within Section 22, T. 41S, R. 67E, Copper River Meridian, in City and Borough of Juneau, Alaska. 6D0601090020. Project Site (Latitude, Longitude): 58.302530, -134.45049. With potential discharge location(s) as follows: 58.304444, -134.451667

Purpose: Tlingit Haida Regional Housing Authority (THRHA) stated purpose is to provide affordable housing to qualified lower income home buyers (earning less than 80% of Median Family Income) who are residents of Douglas and the Juneau area.

Description: The construction of a housing subdivision project within the City and Borough of Juneau on Douglas Island. The development of the property for residential housing will include 40 lots total (5 acres of wetlands within the total 17.62-acre project area). All lots will require the addition of water, sewer, and electrical service lines to be placed with access to existing utility tie-ins along North Douglas Highway. Total 4.12-acre wetland fill amounts include 48,500 cubic yards shot rock and 12,200 cubic yards of D-1 gravel.

Applicant Proposed Mitigation: The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the United States from activities involving discharges of dredged or fill material.

a. Avoidance: The overall clearing limits are estimated at 17.62 acres. All clearing shall be performed outside of the April 15 - July 15 nesting window for forest / woodland birds, and the March 1 -

[1] Reference EDMS Submission Ref Nbr: HQ7-CHB9-4DVN8, Rcv 10/14/2024 1:55:00 PM

August 31 window for eagles, in accordance with the U.S. Fish and Wildlife Service recommendations. Note: There are no known eagles' nest within 660 feet of the project limits.

The erosion and sediment control plan (ESCP) is only intended to depict the overall site drainage characteristics. The contractor shall utilize the ESCP to develop the Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the Alaska Department of Environmental Conservation and the Construction General Permit. Storm water runoff for this project can be divided into two categories: The existing drainage that outfalls to Little Grant Creek is an estimated 450 ft away from project property line at Lot 20 and Lot 21. The remainder of storm water within the project limits will be directed to the outfall and existing culverts along North Douglas Highway.

b. Minimization: The clearing limits at each site were chosen to be of the smallest dimensions possible that will fit the anticipated housing pad. The overall clearing limits are estimated at 17.62 acres (5 acres of wetlands). All clearing shall be performed outside of the April 15 - July 15 nesting window for forest/woodland birds, and the March 1 - August 31 window for eagles, in accordance with the U.S. Fish and Wildlife Service recommendations. Note: There are no known eagles' nest within 660 feet of the project limits.

c. Mitigation: Clearing and grubbing will limited to only the necessary area and depth of existing material in order to create a stable building pad. The applicant believes they have minimized and avoided impacts to the extent practicable. Should additional project mitigation be warranted, they will work with USACE to determine a reasonable path forward to mitigate potential impacts to the environment, local habitat, and protected species.

Antidegradation Analysis Finding

Pursuant to the Department's Antidegradation Policy and Implementation Methods at 18 AAC 70.015 and 18 AAC 70.016, DEC finds that the project would comply with the requirements for Tiers 1 and 2 regarding water quality impacts to receiving water immediately surrounding the dredge or fill material pursuant to the Corps evaluation and findings of no significant degradation under 33 U.S.C. 1344 and under 40 CFR 230. The use of appropriate best management practices and erosion and sediment control measures would adequately protect the existing water uses and the level of water quality necessary to protect existing uses. Any potential water quality degradation is expected to be temporary, limited, and necessary to accommodate important social and/or economic development in the area.

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

The Department of Environmental Conservation (DEC) reviewed the application and certifies that there is reasonable assurance that the proposed activity, as well as any discharge that may result, will comply with applicable provisions of Section 401 of the CWA and the Alaska Water Quality Standards (18 AAC 70) provided the permittee complies with the terms and conditions imposed by the permit/license and that the following additional measures are adhered to.

Pursuant to 18 AAC 70.020(a) and the Toxics and Other Deleterious Organic and Inorganic Substances in 18 AAC 70.020(b), the following conditions are designed to reduce pollutants from construction activity to ensure compliance with the applicable water quality standards.

Pollutants/Toxics

1. Fuel storage and handling activities for equipment must be sited and conducted so there is no petroleum contamination of the ground, subsurface, or surface waterbodies.

2. During construction, spill response equipment and supplies such as sorbent pads shall be available and used immediately to contain and clean up oil, fuel, hydraulic fluid, antifreeze, or other pollutant spills. Any spill amount must be reported in accordance with Discharge Notification and Reporting Requirements (AS 46.03.755 and 18 AAC 75 Article 3). The applicant must report the spill to the DEC Area Response Team office online at https://reportspills.alaska.gov/; or via phone: at 1-800-478-9300 or 1-907-269-0667. For Federal reporting requirements, see the National Response Center website: https://nrc.uscg.mil/. For more information, see the DEC Spill Information website: https://dec.alaska.gov/spar/ppr/spill-information/reporting/.
3. Construction equipment shall not be operated below the ordinary high-water mark if the equipment is leaking fuel, oil, hydraulic fluid, or any other hazardous material. Equipment shall be inspected daily for leaks. If leaks are found, the equipment shall not be used and pulled from service until the leak is repaired.
4. Fill material (including dredge material) must be clean soil, sand, gravel, or rock, free from petroleum products and toxic contaminants in toxic amounts.

Turbidity, Erosion and Sediment Control

5. Runoff discharged to surface water (including wetlands) from a construction site disturbing one or more acres must be covered under Alaska's General Permit for Storm Water Discharges from Large and Small Construction Activities in Alaska (CGP, AKR100000, 18 AAC 83). The CGP requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For projects that disturb more than five acres, this SWPPP must also be submitted to DEC prior to construction along with the Notice of Intent (NOI). For more information see DEC's website for the CGP at https://dec.alaska.gov/water/wastewater/stormwater/construction, or call 907-269-6285.
6. Excavated or fill material, including overburden, shall be placed so that it is stable, meaning after placement the material does not show signs of excessive erosion. Indicators of excess erosion include gullying, head cutting, caving, block slippage, material sloughing, etc. The material must be contained with siltation best management practices (BMPs) to preclude reentry into any waters of the U.S., which includes wetlands.
7. Include the following BMPs to handle stormwater and total stormwater volume discharges as they apply to the site:
    a. Divert stormwater from off-site around the site so that it does not flow onto the project site and cause erosion of exposed soils.
    b. Slow down or contain stormwater that may collect and concentrate within a site and cause erosion of exposed soils.
    c. Place velocity dissipation devices (e.g., check dams, sediment traps, or riprap) along the length of any conveyance channel to provide a non-erosive flow velocity. Also place velocity dissipation devices where discharges from the conveyance channel or structure join a watercourse to prevent erosion and to protect the channel embankment, outlet, adjacent stream bank slopes, and downstream waters.

Vegetation Protection and Restoration

8. Any disturbed ground and exposed soil not covered with fill must be stabilized and re-vegetated with endemic species, grasses, or other suitable vegetation appropriately to minimize erosion and sedimentation, so that a durable vegetative cover is established in a timely manner.

9. All work areas, material access routes, and surrounding wetlands involved in the construction project shall be delineated and marked in such a way that equipment operators do not operate outside of the marked areas.
10. Natural drainage patterns shall be maintained, to the extent practicable, without introducing ponding or drying.

General

11. DEC coordinates with several regulatory programs to review the impacts of proposed projects. A Section 401 Certification does not release the applicant from obtaining all necessary federal, state, and local permits, nor does it limit more restrictive requirements set through any such program. It does not eliminate, waive, or vary the applicant's obligation to comply with all state water statutes and rules through the construction, installation, and operation of the project or mitigation, including, but not limited to the APDES permitting program 18 AAC 83 and 18 AAC 72.
12. USACE has stated that projects shall be reviewed under the federal rules in place at the time the application is received. This project and its mitigation were reviewed under the federal and state statutes and laws in place at the time the application was received. If the USACE determines any part or condition of this Certification is not lawful or is waived and unenforceable, the determination shall apply only to the part or condition so determined. The determination shall not apply to nor invalidate any remaining parts or conditions of this Certification. If the USACE makes such a determination, the applicant remains responsible for meeting state water quality statutes and rules, and if a violation occurs, may be subject to state enforcement (18 AAC 70.010).
13. This Certification does not release the applicant from any liability, penalty, or duty imposed by Alaska or federal statutes, regulations, rules, or local ordinances, and it does not convey a property right or an exclusive privilege.
14. If your project is not completed by the time limit specified under the USACE Permit and will continue, or for a modification of the USACE permit, you must submit an application for renewal of this certification at least 60 days before the expiration date or any deadline established by USACE for certification action on the modification, or 60 days before the proposed effective date of the modification, whichever is sooner. (18 AAC 15.120(b), 18 AAC 15.130, 18 AAC 15.180).

Date: February 5, 2025

Nick Waldo, Program Manager
Storm Water and Wetlands

SELF-CERTIFICATION STATEMENT OF COMPLIANCE

Permit Number: POA-2023-00089

Permittee's Name & Address (please print or type):_____

_____

_____

Telephone Number:_____

Location of the Work:_____

_____

Date Work Started:_____ Date Work Completed:_____

PROPERTY IS INACCESSIBLE WITHOUT PRIOR NOTIFICATION: YES _____ NO_____
TO SCHEDULE AN INSPECTION PLEASE CONTACT _____
AT _____

Description of the Work (e.g. bank stabilization, residential or commercial filling, docks, dredging, etc.):_____

_____

_____

Acreage or Square Feet of Impacts to Waters of the United States: _____

Describe Mitigation completed (if applicable): _____

_____

_____

Describe any Deviations from Permit (attach drawing(s) depicting the deviations):

_____

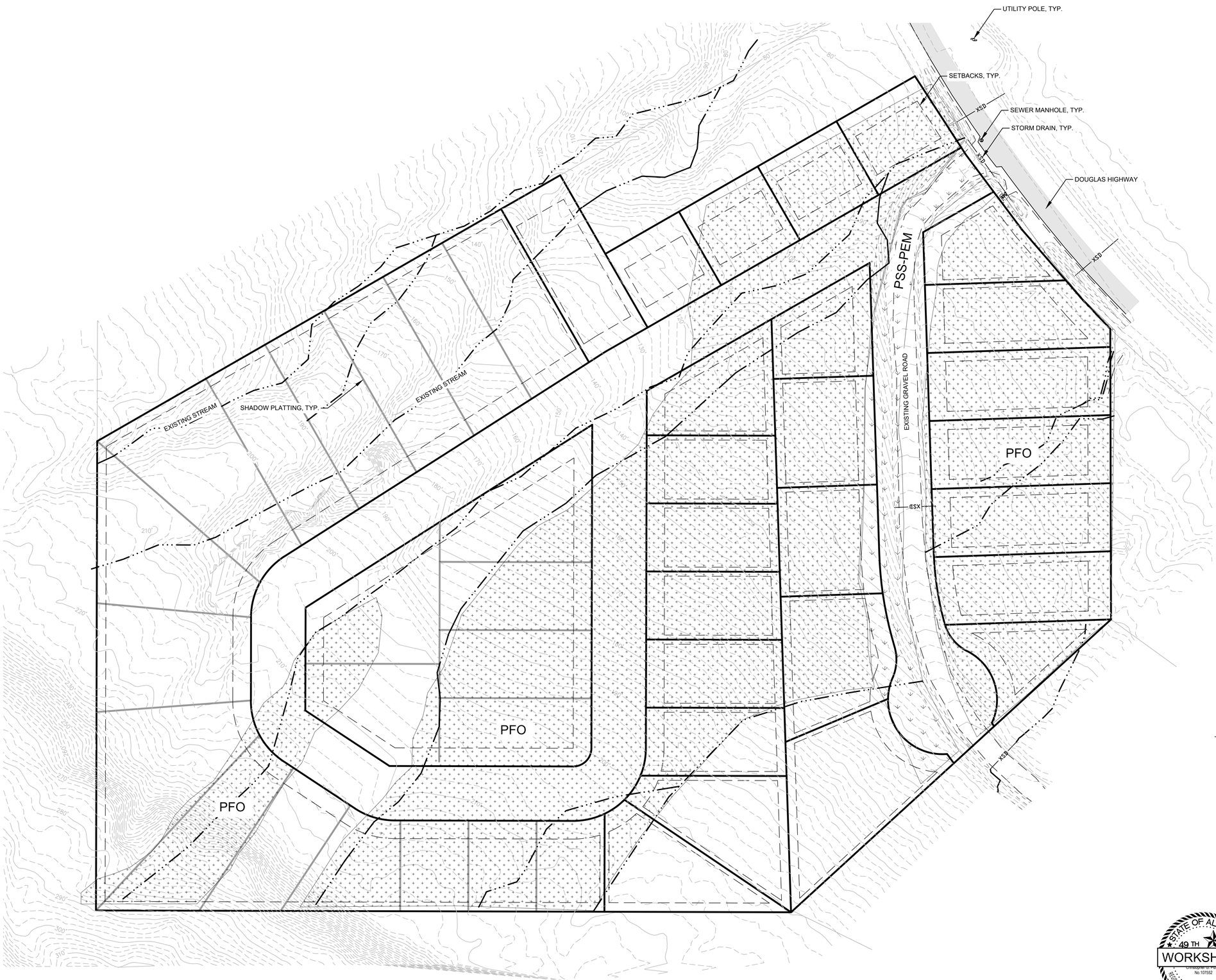
_____

I certify that all work and mitigation (if applicable) was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

_____
Signature of Permittee

_____
Full Name of Permittee (printed or typed)

_____
Date



SCALE 1"=50'

THIS DRAWING MAY BE REDUCED, VERIFY SCALE BEFORE USING

25 50 100 150 200 FEET

10 20 40 60 METERS

1 METER=3.2808333 U.S. SURVEY FEET

1 U.S. ACRE=0.4047 HECTARES

SEET KANAX DUTEEN SUBDIVISION

CREATING LOTS 1 - 25 AND TRACT A & B

A SUBDIVISION OF TRACT II SUBDIVISION OF FRACTION OF USS 2135 (PLAT NO. 273, J.R.D.)

STATE RECORDER'S OFFICE AT JUNEAU
AND
CITY AND BOROUGH OF JUNEAU, ALASKA

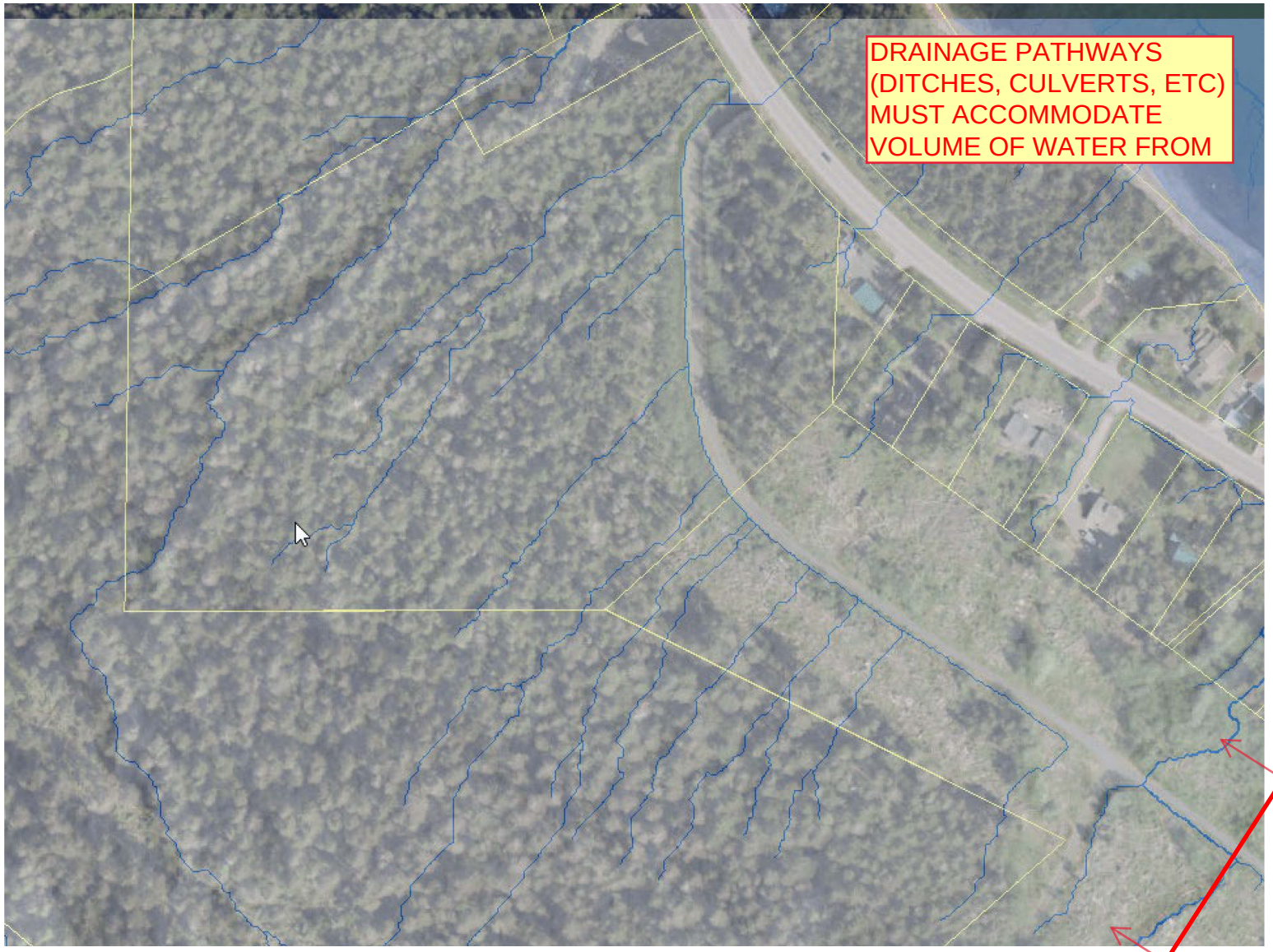
CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, AK 99901
PHONE: (907) 225-7917
FAX: (907) 225-3441

CERTIFICATE OF AUTHORIZATION: C576

DATE:	DRAWN BY:	JOB NO.
10/13/2023	JPT	222321.10
SCALE: AS NOTED	APPRVD BY: CGP	

STATE OF ALASKA 49 TH
WORKSHEET
CHARLES G. PIGOTT No.10752
REGISTERED PROFESSIONAL LAND SURVEYOR


DRAINAGE PATHWAYS
(DITCHES, CULVERTS, ETC)
MUST ACCOMMODATE
VOLUME OF WATER FROM

From:	Bridget LaPenter
To:	David Peterson
Cc:	Jill Lawhorne; Scott Ciambor
Subject:	RE: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?
Date:	Thursday, February 20, 2025 4:38:55 PM
Attachments:	~~image001.png~~

Yes, the drainage study has been reviewed and is acceptable.

Bridget LaPenter, P.E. | Chief GE Engineer
General Engineering Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0800 ext. 4187 Cell: 907.500.4170

From: David Peterson <David.Peterson@juneau.gov>
Sent: Thursday, February 20, 2025 3:47 PM
To: Bridget LaPenter <Bridget.LaPenter@juneau.gov>
Cc: Jill Lawhorne <Jill.Lawhorne@juneau.gov>; Scott Ciambor <Scott.Ciambor@juneau.gov>
Subject: Fw: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?

Hey Bridget,

Did you get to see the drainage study that was requested for this to move forward?

DP

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Get Outlook for Android

From: Lorraine DeAsis <ldeasis@thrha.org>
Sent: Thursday, February 20, 2025 12:10:01 PM
To: Scott Ciambor <Scott.Ciambor@juneau.gov>; Jill Lawhorne <Jill.Lawhorne@juneau.gov>; Bridget LaPenter <bridget.lapenter@juneau.gov>
Cc: David Peterson <David.Peterson@juneau.gov>
Subject: RE: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

I have not received anything from David Peterson regarding any additional material/information that may be needed.

I'm assuming this is scheduled for the February 25th Planning Commission meeting.

If not, please tell me what is needed and when this will be presented.

Thank you-
Lorraine

Lorraine DeAsis
Director, Design & Construction Management
Tlingit Haida Regional Housing Authority
907-957-2806 Cell
907-780-3188 Office
5446 Jenkins Drive
Juneau, AK 99801

From: Scott Ciambor <Scott.Ciambor@juneau.gov>
Sent: Friday, January 31, 2025 11:25 AM
To: Lorraine DeAsis <ldeasis@thrha.org>; Jill Lawhorne <Jill.Lawhorne@juneau.gov>; Bridget LaPenter <bridget.lapenter@juneau.gov>
Cc: David Peterson <David.Peterson@juneau.gov>
Subject: RE: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?

Hi Lorraine –
I've added David Peterson to this email to see confirmed drainage study and who can summarize other information needed. Thanks, scott

SCOTT CIAMBOR /SKAHT CHAM-bor/| PLANNING MANAGER
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0753 ext. 4127

Fostering excellence in development for this generation and the next.

From: Lorraine DeAsis <ldeasis@thrha.org>
Sent: Friday, January 31, 2025 10:25 AM

To: Jill Lawhorne <Jill.Lawhorne@juneau.gov>; Bridget LaPenter <Bridget.LaPenter@juneau.gov>; Scott Ciambor <Scott.Ciambor@juneau.gov>
Subject: FW: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Can we schedule Seet Kanax Duteen for the Planning Commission?

I will also be sending an application for the Grading Permit for Seet Kanax Duteen.

Are their any other permits/processes we need for Seet Kanax Duteen or Pederson Hill?

Lorraine DeAsis
Director, Design & Construction Management
Tlingit Haida Regional Housing Authority
907-957-2806 Cell
907-780-3188 Office
5446 Jenkins Drive
Juneau, AK 99801

TH
Regional Housing Authority

From: Lorraine DeAsis
Sent: Thursday, January 23, 2025 4:58 PM
To: Bridget LaPenter <Bridget.LaPenter@juneau.gov>; Jill Lawhorne <Jill.Lawhorne@juneau.gov>
Subject: RE: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?

Perfect!

Thank you so much!! That's very exciting!
...Now to get through the feds...

My most pressing issue at the moment is cutting the trees in both locations before March 1st.

Lorraine DeAsis

Director, Design & Construction Management
Tlingit Haida Regional Housing Authority
907-957-2806 Cell
907-780-3188 Office
5446 Jenkins Drive
Juneau, AK 99801

From: Bridget LaPenter <Bridget.LaPenter@juneau.gov>
Sent: Thursday, January 23, 2025 4:53 PM
To: Lorraine DeAsis <ldeasis@thrha.org>; Jill Lawhorne <Jill.Lawhorne@juneau.gov>
Subject: RE: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?

Thanks, Lorraine. I was out of the office for a few days this week and last week. So far in my review of this document that seems to be all we need. I will review what's needed and get back to you tomorrow.

Bridget LaPenter, P.E. | Chief GE Engineer
General Engineering Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0800 ext. 4187 Cell: 907.500.4170

From: Lorraine DeAsis <ldeasis@thrha.org>
Sent: Thursday, January 23, 2025 1:52 PM
To: Bridget LaPenter <Bridget.LaPenter@juneau.gov>; Jill Lawhorne <Jill.Lawhorne@juneau.gov>
Subject: FW: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

With this new Drainage Study, are we now ready to go to the Planning Commission?

What else is needed?

Lorraine DeAsis
Director, Design & Construction Management
Tlingit Haida Regional Housing Authority

907-957-2806 Cell
907-780-3188 Office
5446 Jenkins Drive
Juneau, AK 99801

From: Lorraine DeAsis
Sent: Thursday, January 23, 2025 1:49 PM
To: Bridget LaPenter <Bridget.LaPenter@juneau.gov>; Jill Lawhorne <Jill.Lawhorne@juneau.gov>
Subject: FW: Seet Kanax Duteen - updated drainage study - Ready for Planning Commission?

With this new Drainage Study, are we far enough along to go to the Planning Commission?

What else is needed?

Lorraine DeAsis
Director, Design & Construction Management
Tlingit Haida Regional Housing Authority
907-957-2806 Cell
907-780-3188 Office
5446 Jenkins Drive
Juneau, AK 99801

From: Lorraine DeAsis
Sent: Tuesday, January 21, 2025 2:48 PM
To: Bridget LaPenter <Bridget.LaPenter@juneau.gov>
Subject: Seet Kanax Duteen - updated drainage study

Hi Bridget –

JFYI -
Attached is an updated drainage study that was just sent from the engineers to the Army Corp of Engineering for Seet Kanax Duteen.

I keep hoping we're getting close.

Lorraine DeAsis
Director, Design & Construction Management
Tlingit Haida Regional Housing Authority
907-957-2806 Cell
907-780-3188 Office
5446 Jenkins Drive
Juneau, AK 99801

Regional Housing Authority

From: Trevor Sande <trevorsande@rmketchikan.com>
Sent: Tuesday, January 21, 2025 2:26 PM
To: Wilks, Delana P CIV USARMY CEPOA (USA) <Delana.P.Wilks@usace.army.mil>; Diana Parks <dparks@thrha.org>
Cc: Cathy Needham (cathy@kaienvironmental.com) <cathy@kaienvironmental.com>; Lorraine DeAsis <ldeasis@thrha.org>; Joel Teune <joel@alaskaae.com>
Subject: RE: POA-2023-00089 Compensatory Mitigation

Delana,
Attached is an updated drainage study that addresses both City and Borough of Juneau and EPA comments on our preliminary design drawings and the corp permit application. This includes a very through field investigation performed last week by our environmental consultant. Please let us know if there is anything further.
Trevor Sande

From: Lorraine DeAsis
To: David Peterson
Cc: Scott Ciambor
Subject: RE: SMP24-01 - Seet Kanax Duteen - Single or Multifamily
Date: Monday, March 10, 2025 2:43:22 PM
Attachments: image001.png

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

I walked the site with the engineer last Thursday.

I've been complaining endlessly about how our original plan had 56 lots & now we're down to 40.

This is due to hillside runoff, grade, intersections & other stuff.

Some of the lots are large because there are streams or steep banks.

The engineer is looking at the road to see if a different configuration will work better (we have already had many different configurations).

We are not at all interested in building multi-family housing. We know the property is zoned for it.

Lorraine DeAsis
Director, Design & Construction Management
Tlingit Haida Regional Housing Authority
907-957-2806 Cell
907-780-3188 Office
5446 Jenkins Drive
Juneau, AK 99801

TH
Regional Housing Authority

From: David Peterson <David.Peterson@juneau.gov>
Sent: Monday, March 10, 2025 1:53 PM
To: Lorraine DeAsis <ldeasis@thrha.org>
Cc: Scott Ciambor <Scott.Ciambor@juneau.gov>
Subject: RE: SMP24-01 - Seet Kanax Duteen - Single or Multifamily

Lorraine,

Just throwing it out there, it looks like many of these lots could accommodate 4-6 units.

Is there any interest in something like that?

On D18 zoned property, seems a great opportunity to push for higher density.

Thoughts?

DP

From: Lorraine DeAsis <ldeasis@thrha.org>
Sent: Monday, March 10, 2025 1:14 PM
To: David Peterson <David.Peterson@juneau.gov>
Cc: Scott Ciambor <Scott.Ciambor@juneau.gov>
Subject: RE: SMP24-01 - Seet Kanax Duteen - Single or Multifamily

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Nothing will be larger than a duplex.

So, that means it's all Single family – right?

Lorraine DeAsis
Director, Design & Construction Management
Tlingit Haida Regional Housing Authority
907-957-2806 Cell
907-780-3188 Office
5446 Jenkins Drive
Juneau, AK 99801

From: David Peterson <David.Peterson@juneau.gov>
Sent: Monday, March 10, 2025 11:46 AM
To: Lorraine DeAsis <ldeasis@thrha.org>
Cc: Scott Ciambor <Scott.Ciambor@juneau.gov>
Subject: SMP24-01 - Seet Kanax Duteen - Single or Multifamily

Hey Lorraine,

I am noticing in the narrative that was submitted that a combination of Single family and Multifamily housing would be used.

Do you by chance have any more details about which lots would be single vs multi family housing?

Cheers!

David Matthew Peterson | Planner II – Plat Reviewer
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0753 ext. 4132

Fostering excellence in development for this generation and the next.

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

PLANNING COMMISSION
NOTICE OF RECOMMENDATION
Date: March 11, 2010
File No.: MAP2008-00004

City and Borough of Juneau
City and Borough Assembly
155 South Seward Street
Juneau, AK 99801

Application For:	Planning Commission Recommendation to the City and Borough Assembly regarding a zone change request for parcels 6-D06-0-109-002-0, 6-D06-0-111-002-0, and 6-D06-0-113-001-0 from D-3 to D-18.
Legal Description:	USS 2135 TR II, USS 2135 TR I, TR A, and USMS 2305 LT 15
Parcel Code No.:	6-D06-0-109-002-0; 6-D06-0-111-002-0; 6-D06-0-113-001-0
Hearing Date:	December 8, 2009, hearing was reopened by vote of the Planning Commission on March 9, 2010.

The Planning Commission, at its regular public meeting, adopted the analysis and findings listed in the attached memorandums dated December 3, 2009 and March 4, 2010, and recommended that the City and Borough Assembly adopt staff's recommendation for immediate zone change requested. However, the Planning Commission recommended a 50-foot buffer. This zone change would modify the current zone from D-3 to D-18 (allowing 18 dwellings per acre).

The Planning Commission recommends that the Assembly adopt this zone change request with the following conditions:

USS 2135 TR II

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one-quarter mile from adjacent access roads, when possible.
2. A 50-foot no development buffer, not a do not disturb buffer, beyond what is needed to provide access and infrastructure, be established along the highway and where lot lines abut land within a lower density zoning district.

USS 2135 TR I, TR A, and USMS 2305 LT 15

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one-quarter mile from adjacent access roads, when possible.

2. A 50-foot no development buffer, not a do not disturb buffer, beyond what is needed to provide access and infrastructure, be established along the highway and where lot lines abut land within a lower density zoning district.
3. USS 2135 TR I, TR A, and USMS 2305 LT 15 will share one access to Douglas Highway.

Attachments: December 3, 2009 and March 4, 2010 memorandums from Beth McKibben, Community Development, to the CBJ Planning Commission regarding MAP2008-00004.

The application included two additional sites. The Notice of Decision for these sites is separate and were approved by the Commission as provided by CBJ§49.70.720.

This Notice of Recommendation constitutes a recommendation of the CBJ Planning Commission to the City and Borough Assembly. Decisions to recommend an action are not appealable, even if the recommendation is procedurally required as a prerequisite to some other decision, according to the provisions of CBJ §01.50.020 (b).

Project Planner: _____ _____

Beth McKibben, Planner
Community Development Department

Maria Gladziszewski, Chair
Planning Commission

_____ 3/15/2010

Filed With City Clerk Date

cc: Murray Walsh, 2974 Foster Avenue, Juneau, AK 99801
Corp. of Catholic Bishops, 415 Sixth Street, Juneau, AK 99801
Tigar Properties, Inc. & Grant Creek Homes, 18908 Lassen Street, Northridge CA, 91324

NOTE: The Americans with Disabilities Act (ADA) is a federal civil rights law that may affect this recommended map change. ADA regulations have access requirements above and beyond CBJ - adopted regulations. Contact an ADA - trained architect or other ADA trained personnel with questions about the ADA: Department of Justice (202) 272-5434, or fax (202) 272-5447, NW Disability Business Technical Center (800) 949-4232, or fax (360) 438-3208.

Continued on Page 121

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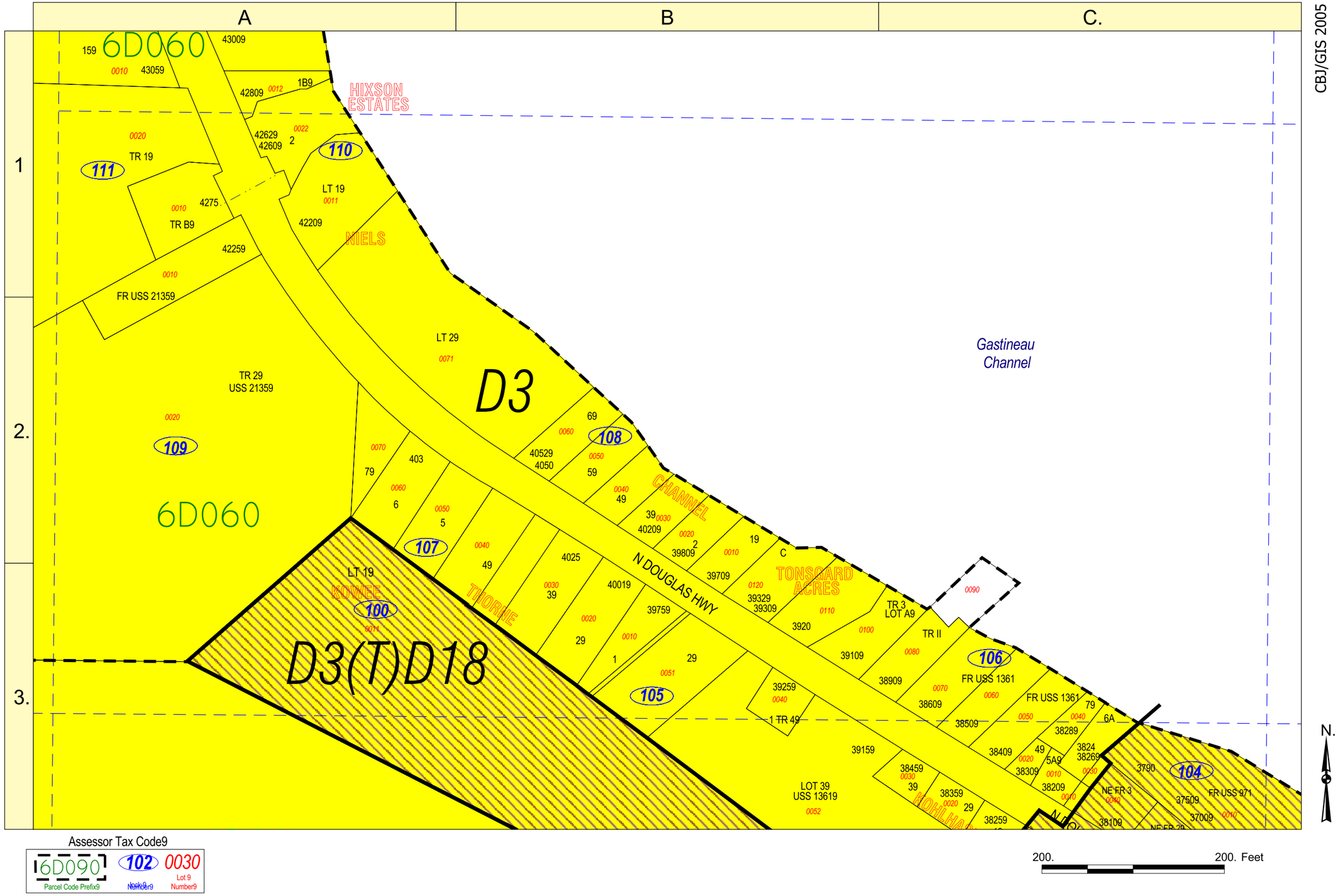

Continued on Page 102

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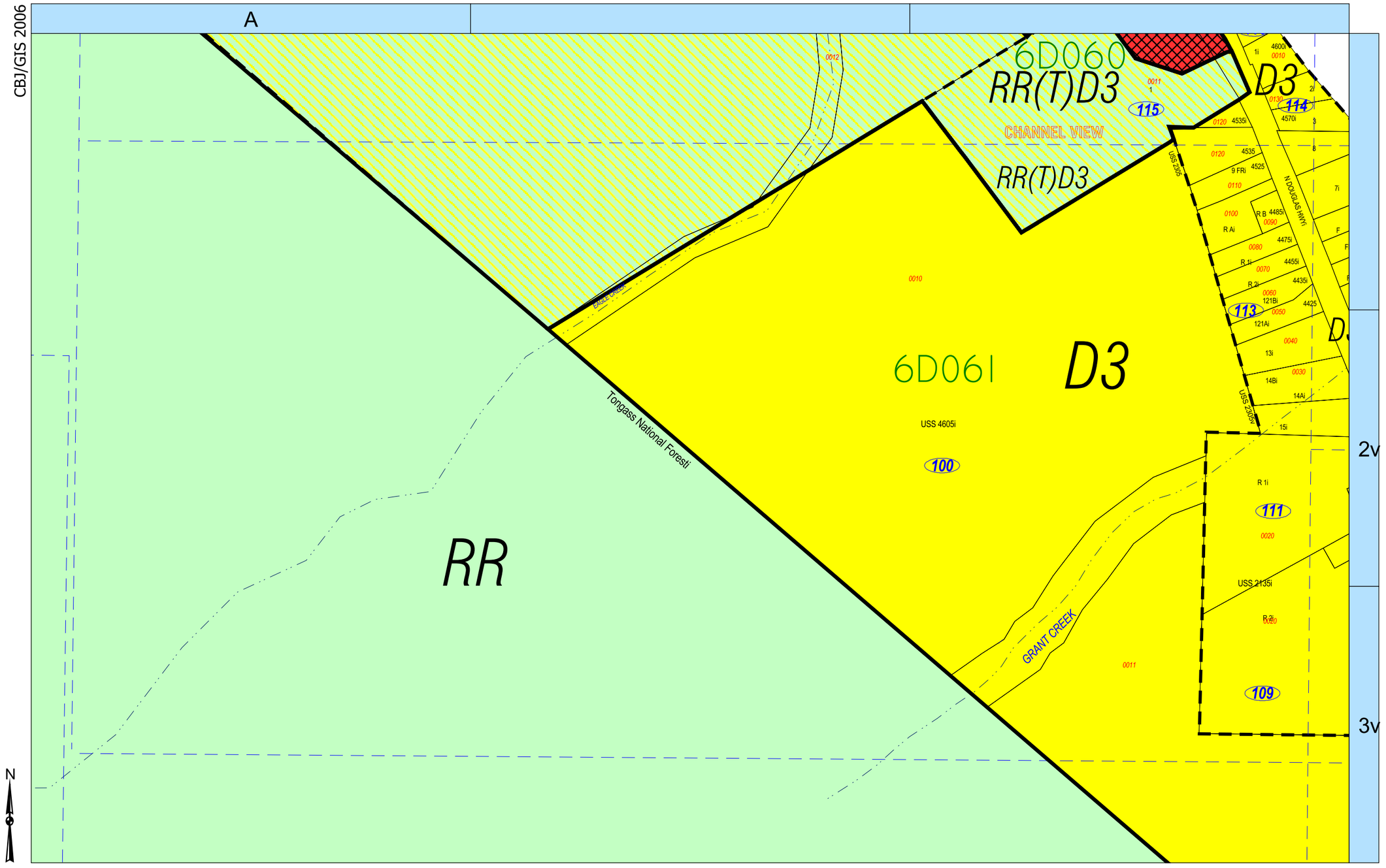
CBJ/GIS 2006



"COPY"

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

January 3, 2001
6D0601100022

Buel Hixson
4280 North Douglas Highway
Juneau, Alaska 99801

Dear Mr. Hixson:

This letter confirms that the stream that passes through your property, Lot 2B, Hixson Estates, is not a catalogued anadromous fish stream. As such, CBJ does not require a development setback from this stream. While CBJ maps show that Grant Creek passing through your property, conversations with the Alaska Department of Fish & Game confirm that the map is in err and that Grant Creek, which is a cataloged anadromous fish stream, is located approximately 500 feet to the north of your property.

If you need further clarification, please do not hesitate to contact me at 586-5230. Thank you for your patience in resolving this issue.

Sincerely,

Sylvia A. Kreel, Planner
Community Development Department

Benjamin Lyman

From: Jason Gasper [jason_gasper@fishgame.state.ak.us]
Sent: Thursday, October 28, 2004 3:29 PM
To: Benjamin Lyman
Subject: Grant Creek

Attachments: Summary of Findings for Grant Creek.doc

Summary of Findings for Grant ..

Hello Benjamin,

Brian Glynn Referred your e-mail to me. I did some minnow trapping in Grant Creek in July of 04'. My findings are in the attached word document. Please contact me if you have any questions.

Jason Gasper
ADF&G Sportfish Division
Assistant Management Biologist
(907) 465-8152

Summary of Findings for Grant Creek

This brief summary is broken into two sections: the northern stream; and, the southern stream. Both sites were sampled using minnow traps (2 hour soak time) on 7/12/04 and 7/9/04.

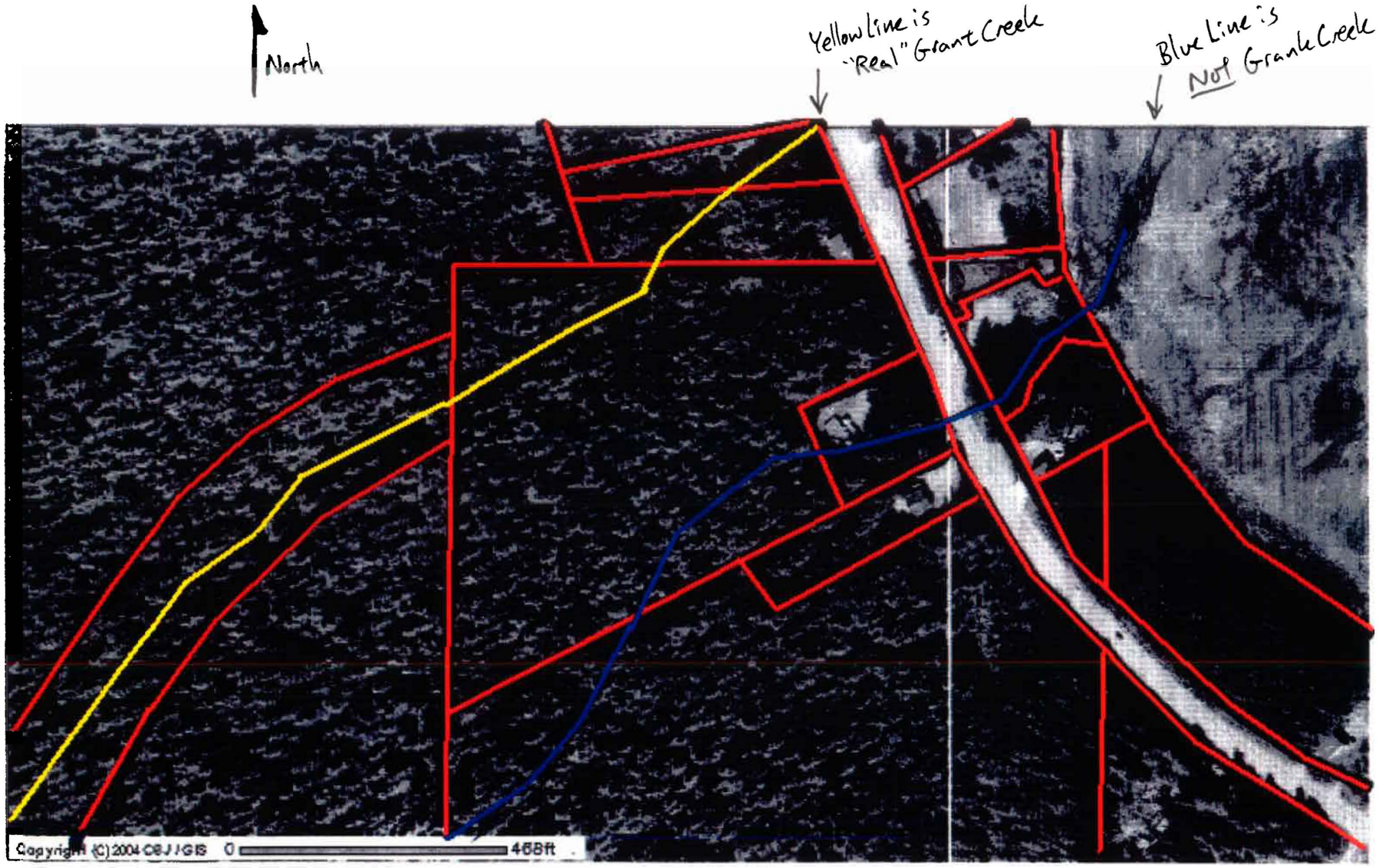
Northern Stream (By 4370 N. Douglas Hwy)

It appears that the North Douglas hwy culvert presents a blockage to anadromous fish passage. No coho were found above the N. Douglas Hwy culvert (Dolly Varden were present). Two coho salmon and four Dolly Varden were observed in Grant Creek below the N. Douglas Hwy and property owner's culverts.

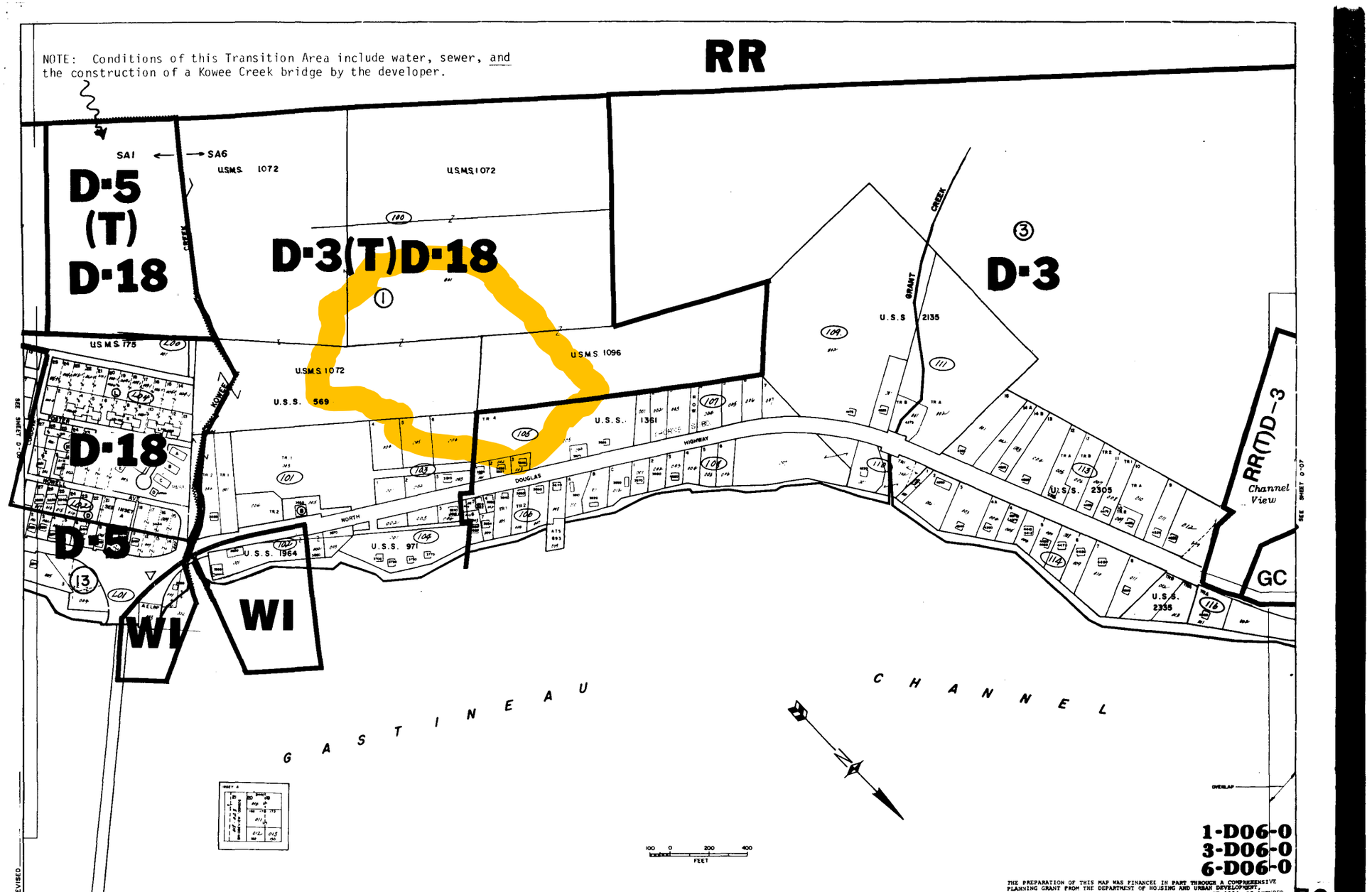
Southern Stream

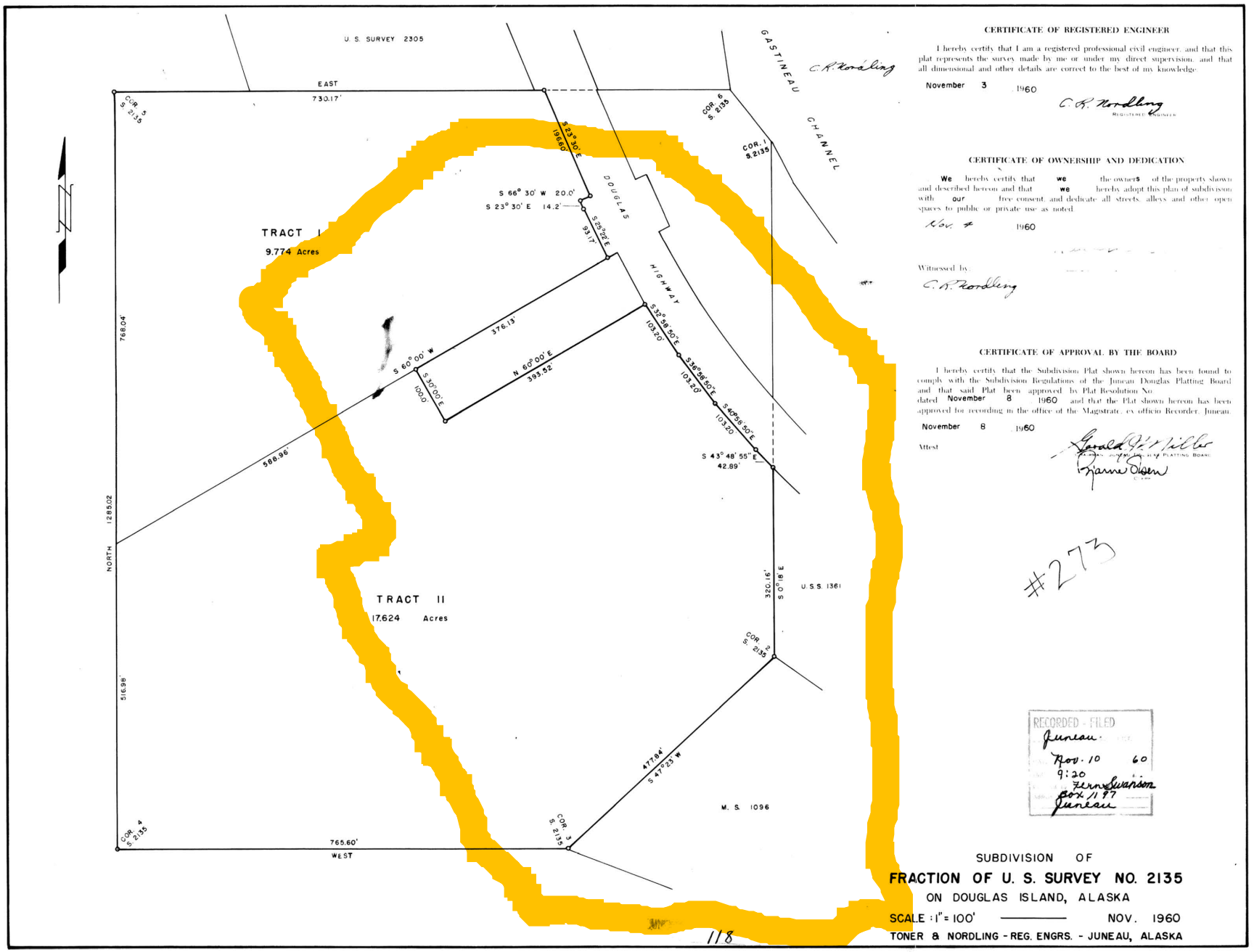
Coho salmon were not present in this stream, although, 3 Dolly Varden were caught using minnow traps below the Douglas Hwy Culvert. No fish were observed above the Hwy.

It should be noted that the two streams probably do not converge above the N. Douglas Hwy. A creel technician hiked approximately ½ mile up the northern stream until it forked into two separate very small tributaries. The direction of the tributaries and layout of the terrain make it unlikely that Grant Creek is composed of the North and South streams.



Property lines & stream courses are approximate, and are not georeferenced or for use other than in this illustration.
DO NOT DUPLICATE!


NOTE: Conditions of this Transition Area include water, sewer, and the construction of a Kowee Creek bridge by the developer.
RR
D-5 (T) D-18
D-3(T)D-18
D-3
D-18
D-5
WI
WI
GC
RR(T)D-3
Channel View
GASTINEAU CHANNEL
U.S.M.S. 1072
U.S.M.S. 1096
U.S.M.S. 175
U.S.S. 569
U.S.S. 1964
U.S.S. 971
U.S.S. 1351
U.S.S. 2135
U.S.S. 2305
U.S.S. 2335
DOUGLAS HIGHWAY
NORTH
GRANT
KOWEE
CREEK
1-D06-0
3-D06-0
6-D06-0
100 0 200 400
FEET
REVISED
THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH A COMPREHENSIVE PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.



CERTIFICATE OF REGISTERED ENGINEER

I hereby certify that I am a registered professional civil engineer, and that this plat represents the survey made by me or under my direct supervision, and that all dimensional and other details are correct to the best of my knowledge.

November 3 1960

C. R. Nordling
REGISTERED ENGINEER

CERTIFICATE OF OWNERSHIP AND DEDICATION

We hereby certify that we the owners of the property shown and described hereon and that we hereby adopt this plan of subdivision with our free consent, and dedicate all streets, alleys and other open spaces to public or private use as noted.

Nov. 4 1960

Witnessed by

C. R. Nordling

CERTIFICATE OF APPROVAL BY THE BOARD

I hereby certify that the Subdivision Plat shown hereon has been found to comply with the Subdivision Regulations of the Juneau Douglas Platting Board and that said Plat been approved by Plat Resolution No dated November 8 1960 and that the Plat shown hereon has been approved for recording in the office of the Magistrate, ex officio Recorder, Juneau.

November 8 1960

Attest

Gerald G. Gilbert
PLANNING DIRECTOR & PLATTING BOARD

Joanne Olson
CLERK

#273

RECORDED - FILED
Juneau
Nov. 10 60
9:20
Fern Swanson
Box 1197
Juneau

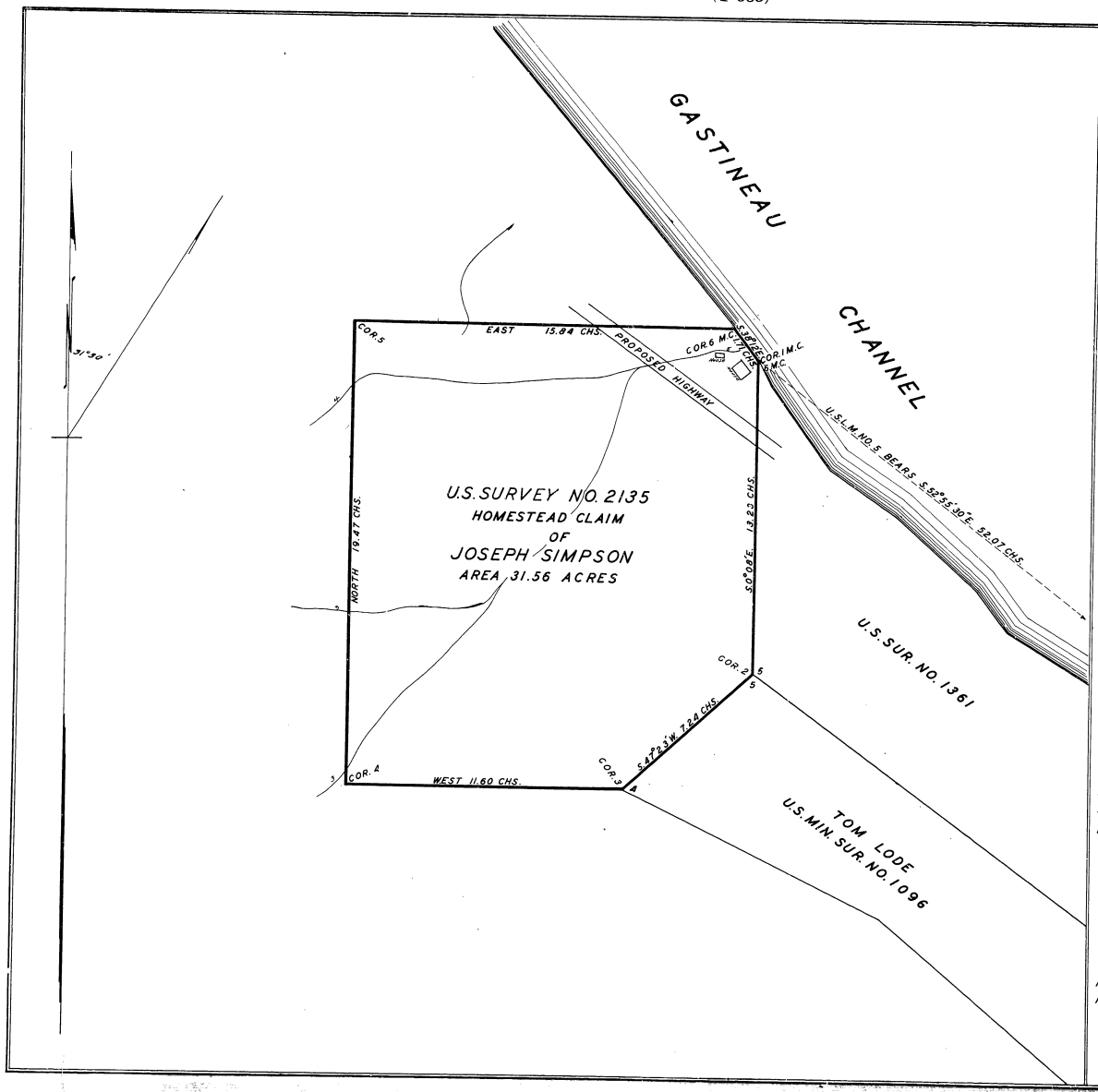
SUBDIVISION OF
FRACTION OF U. S. SURVEY NO. 2135
ON DOUGLAS ISLAND, ALASKA
SCALE : 1" = 100' NOV. 1960
TONER & NORDLING - REG. ENGRS. - JUNEAU, ALASKA

118

Plat # 273

(4-653)

ORIGINAL



PLAT

of

U.S. SURVEY NO. 2135

of the

HOMESTEAD CLAIM

of

JOSEPH SIMPSON

Executed under the Act of Congress,
Approved JUNE 28, 1918

situated

ON DOUGLAS ISLAND ON GASTINEAU CHANNEL WEST OF AND ADJOINING U.S. SURVEY NO. 1361

TERRITORY OF ALASKA

Area: 31.56 acres
Declination: 31° 30' E.
Scale: 3 chains to the inch

Latitude 58° 18' 10" N. Longitude 134° 26' W.

Survey executed by

CHARLES P. SEELYE, U.S. TRANSITMAN

AUGUST 18–20, 1932

CERTIFICATE OF APPROVAL
PUBLIC SURVEY OFFICE
Juneau, Alaska, MAY 16, 1933

The original field notes of Survey No. 2135, of the

HOMESTEAD CLAIM OF JOSEPH SIMPSON

from which this plat has been made, have been examined and approved, and are on file in this office, and I hereby certify that they furnish such an accurate description of said claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects and permanent monuments, as will perpetuate and fix the Locus thereof.

And I further certify that this is a correct plat of said claim, made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

Cadastral Engineer in Charge

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D.C., Dec. 18, 1933.

The survey represented by this plat having been correctly executed in accordance with the requirements of law and the regulations of this office, is hereby accepted.

Acting Assistant Commissioner.

308

ClibPDF - www.fastio.com

From: Schuler, Michael K (DOT)
To: David Peterson
Cc: Harp, Kelly M (DOT); Purves, Nathan A (DOT)
Subject: RE: SMP24-01 - TIA Requirement?
Date: Monday, March 17, 2025 4:29:36 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Hi David,

DOT&PF will still be requiring the access to be constructed as an approach road, and we will also require a Traffic Impact Analysis (TIA) prior to permitting the access. While the property owner may argue that their buildout and daily traffic counts are below TIA requirements, the proposed "full" buildout clearly shows there will be far more vehicle movements and as such we'll want to see the potential effects. I can say I don't see any issues with permitting the approach road. Sightlines and grades are adequate. We just need to see how much the development will be affecting North Douglas highway in general.

Michael K. Schuler

Property Management Officer
State of Alaska Dept. of Transportation
Southcoast Region

(907) 465-4499 Desk
(907) 419-4510 Mobile

From: David Peterson <David.Peterson@juneau.gov>
Sent: Thursday, March 13, 2025 10:45 AM
To: Schuler, Michael K (DOT) <michael.schuler@alaska.gov>
Subject: RE: SMP24-01 - TIA Requirement?

Hey Michael,

I spoke with the applicant about their density variability. They were able to confirm that due to the land being so problematic, they would likely only be building single family & duplex lots. This would put their ADT between 230 and 280 average daily trips and no longer 1,600 potential ADT.

Doe this impact the need for an approach road etc.?

Feel free to call to discuss.

Cheers!

DP

Attachment A - Application Packet

From: Schuler, Michael K (DOT) <michael.schuler@alaska.gov>
Sent: Friday, March 7, 2025 6:44 AM
To: David Peterson <David.Peterson@juneau.gov>
Subject: RE: SMP24-01 - TIA Requirement?

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Good Morning David,

I've had some time to dive into this, and yes, we'll be requiring a TIA for the development, especially because the 100 trips per hour will clearly be met earlier than full buildout. I'm going to research the situation on the current access and see when-or if-it was permitted. My guess is that it was permitted as a single-lot driveway. If that's the case, we'll need to re-permit the access into an approach road as the use has changed.

Can you tell me if the zoning on the parcel has changed, and if so, what year?

All these developments are becoming challenging to keep up with!

Michael K. Schuler

Property Management Officer
State of Alaska Dept. of Transportation
Southcoast Region

(907) 465-4499 Desk
(907) 419-4510 Mobile

From: Schuler, Michael K (DOT)
Sent: Thursday, March 6, 2025 4:53 PM
To: David Peterson <David.Peterson@juneau.gov>
Subject: Re: SMP24-01 - TIA Requirement?

I'll have a better look at it in the morning but I'm heavily leaning towards a TIA now just with this new information. Even 300 vehicles more through the roundabout and onto the bridge during commute time will have a noticeable effect.

I'll try to ring you in the morning.

Sent from my iPhone

On Mar 6, 2025, at 5:59 PM, David Peterson <David.Peterson@juneau.gov> wrote:

> **CAUTION:** This email originated from outside the State of Alaska mail system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Michael,

I feel like it is worth mentioning that after a quick analysis of the density. Depending on whether THRHA decide to go with single-family or multifamily dwelling units, there could be anywhere between 25 and 131 dwellings.

The ADT would be conditional on the number of bedrooms within the multifamily units. This is information we don't know quite yet but think it's worth vetting.

If they decide to develop all 46 lots for single-family, they could be generating 437 ADT. If they develop 131 multifamily dwellings for phase 1, they would be generating well over a 1,000 ADT.

Thoughts?

David Matthew Peterson | Planner II – Plat Reviewer
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0753 ext. 4132

<image001.jpg>

Fostering excellence in development for this generation and the next.

From: David Peterson
Sent: Monday, March 3, 2025 4:02 PM
To: Schuler, Michael K (DOT) <michael.schuler@alaska.gov>
Subject: SMP24-01 - TIA Requirement?

Hey Michael,

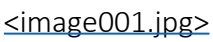
Please see the attached construction plans for an upcoming subdivision north of the bridge on Douglas Highway.

At the moment, phase 1 will be for 25 lots and two tracts. The tracts will later be developed during subsequent phases, into an additional 21 (or more) lots. Our best guess at present would have this development at approximately 437.92 ADT's.

I will verify the requirement with my Director as well, but she usually asks if I

have checked with DOT, so…

David Matthew Peterson | Planner II – Plat Reviewer
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0753 ext. 4132



Fostering excellence in development for this generation and the next.

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

March 17, 2025

MEMORANDUM

To: Jacqueline Pata, President/CEO

From: David Matthew Peterson, Planner I/II

Case Number: SMP2024-0001

Legal Description: USS 2135 Tract II

Parcel No.: 6D0601090020

The following consolidated review comments should be addressed prior to the plat being approved for preliminary plat approval/as a condition of preliminary plat approval. A further review of the preliminary plat may result in additional comments if new issues arise from changes made to the draft plat reviewed for this memorandum.

CCFR

"If they are developing lots for houses, they need to meet IFC Appendix C for Hydrant Location and Distribution as well as Appendix D for Fire apparatus Access Roads."

Cartography

1. Change dates to 2024.
2. Include Planning Commission Plat Approval.
3. Show adjacent parcel lines.
4. Label adjacent "THORNE SUBDIVISION".
5. Name the new roads.
6. Label the acreage for each lot.

7. Delete note 8 since zoning could change in the future.

8. Label “NORTH DOUGLAS HWY” and show ROW width. Show ROW line for northeast side of Douglas Hwy.

9. There are labels for “EXISTING STREAM” but the line symbols for the streams are not showing up on the plat.

10. Include a representative as the signatory for THRHA in the Ownership Certificate.

11. Label original TRACT II with dashed font.

12. Revise title block:

PLAT OF

SEET KANAX SUBDIVISION

A SUBDIVISION OF

TRACT II, A FRACTION OF USS 2135

WITHIN CITY & BOROUGH OF JUNEAU, ALASKA

JUNEAU RECORDING DISTRICT

_____

STATE RECORDER’S OFFICE AT ANCHORAGE

Zoning

1. Include Planning Commission Plat Approval Section. On page 1 of preliminary plat.

PLANNING COMMISSION PLAT APPROVAL

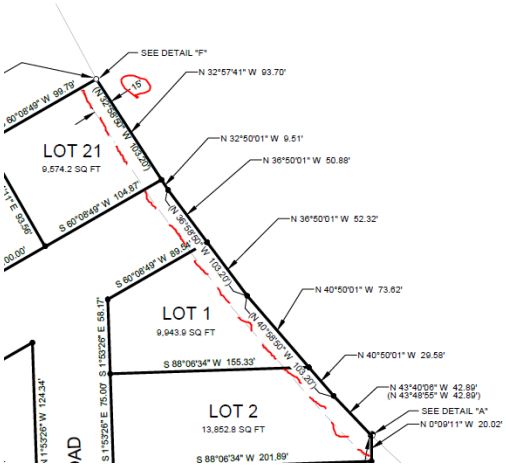
I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF JUNEAU, ALASKA AND THAT SAID PLAT HAS BEEN APPROVED BY THE PLANNING COMMISSION BY PLAT RESOLUTION NO. _____ , DATED _____ , 2023, AND THAT THE PLAT SHOWN HEREON HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE DISTRICT RECORDING OFFICE, ANCHORAGE, ALASKA.

_____DATED _____ , 2023
CHAIRMAN OF THE PLANNING COMMISSION
CITY AND BOROUGH OF JUNEAU

ATTEST:

_____
MUNICIPAL CLERK
CITY AND BOROUGH OF JUNEAU

2. Make sure all dates reflect the current year where necessary.
3. Include Case # (SMP2024-0001) somewhere in the title block.
4. Clarify what the 15 foot easement is for. i.e. Powerlines, water, sewer, etc…



5. For Lots 19 and 20, show street side, arc length, 20’ setback length. The minimum lot width in D18 is 50’. Lots are currently 25’-32’ in length.
6. Lot 13 will need to be accessed from its northern boundary, OR property line “L3” will need to be 50 feet in width to meet the minimum dimensional standards.
7. Include plat note to say, “This site contains mapped Wetlands.”
8. Double check Line and Curve table dimensions and how they coincide with plat.
9. Include plat note to say, “No lots shall access directly onto North Douglas Highway. Access shall be provided onto an interior access street. Per CBJ 49.35.210(b)(1)&(2).”
10. Provide unique street names for new ROW’s.

DOT

1) The connection to CBJ utilities is made within State right of way and needs to be permitted through our Right of Way Utility permitting process. Please have the developers use the contact information below to begin that process.

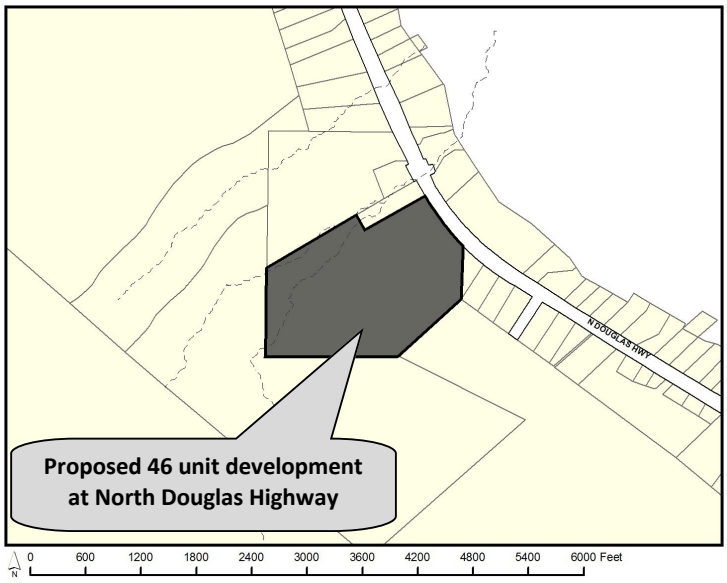
Department of Transportation & Public Facilities
Right of Way – Utilities Section
6860 Glacier Highway
Juneau, AK 99801
t: 1-907-465-1007
m: 1-907-209-8885
f: 1-907-465-8485
e: ryan.siverly@alaska.gov
www.dot.state.ak.us/

2) The access to the proposed subdivision will need to be re-permitted as an approach road with this major change in land use. The approach road review and permitting process can start with me, so please provide my contact information to the developer or their contractor to initiate that process.
3) Include the following plat note "All future access to lots 1, 2 and 21 fronting North Douglas Highway shall be attained through the access created by the primary road servicing the subdivision (if it has a name on that plat I would use the specific street names), no additional driveways will be permitted into State right of way."

Invitation to Comment

On a proposal to be heard by the CBJ Planning Commission

Your Community, Your Voice



CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT
155 Heritage Way Juneau, Alaska 99801

TO

Tlingit Haida Regional Housing Authority (THRHA) requests a **preliminary plat review** for the first 25 lots (phase one), of a **46 unit single-family / multi-family development** at **North Douglas Highway** in a **D18 zone**.

PROJECT INFORMATION:
Project Information can be found at:
https://juneau.org/community-development/short-term-projects

PLANNING COMMISSION DOCUMENTS:
Staff Report expected to be posted **Monday, April 14, 2025** at
https://juneau.org/community-development/planning-commission
Find hearing results, meeting minutes, and more here, as well.

Now through April 3

Comments received during this period will be sent to the Planner **David Peterson,** to be included as an attachment in the staff report.

April 4 — noon, April 18

Comments received during this period will be sent to Commissioners to read in preparation for the hearing.

HEARING DATE & TIME: 6:00 pm, April 22, 2025

This meeting will be held in person and by remote participation. For remote participation: join the Webinar by visiting https://juneau.zoom.us/j/85421744892 and use the Webinar ID: 854 2174 4892 OR join by telephone, calling: 1-253-215-8782 and enter the Webinar ID (above).

You may also participate in person in City Hall Assembly Chambers, 155 Heritage Way Juneau, Alaska.

April 23

The results of the hearing will be posted online.

FOR DETAILS OR QUESTIONS,

Phone: **(907)586-0753 ext. 4132**
Email: **pc_comments@juneau.gov or David.Peterson@juneau.gov**
Mail: **Community Development, 155 Heritage Way, Juneau AK 99801**

Printed March 17, 2025

Case No.: SMP2024 0001
Parcel No.: 6D0601090020
CBJ Parcel Viewer: http://epv.juneau.org

From: Ralph Weatherby
To: David Peterson
Cc: Lorraine DeAsis
Subject: Seet Kanax Duteen, Dougles Public Notice Posting
Date: Wednesday, March 19, 2025 3:54:04 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Please find attached pictures of the public notice posting at Seet Kanax Duteen, .7 mile N. Dougles. For reference, the truck parked in the background in 2025.03.19 Seet Kanax Duteen Posting Notice-2 is parked in the driveway to the property.

Ralph Weatherby | Administrative Specialist | DCM Department
Email: rweatherby@thrha.org | Web: regionalhousingauthority.org
Desk: (907) 780-3153 | Main: (907) 780-6868 | Cell: (907) 500-2528

TH
Regional Housing Authority

NOTICE
For more information
586-0715
pc_comments@juneau.org
MAJOR SUBDIVISION
CASE: SMP 2024 0001
A PRELIMINARY PLAT REVIEW FOR PHASE ONE. 25 UNITS OF SINGLE-FAMILY/MULTIFAMILY DEVELOPMENT.
HEARING DATE: 4/22/2025

NOTICE
586-0715
MAJOR SUBDIVISION
CASE: SMP 2024-0001
A PRELIMINARY PLAT
REVIEW FOR PHASE ONE
25 UNITS OF SINGLE-
FAMILY/MULTIFAMILY
DEVELOPMENT.
HEARING DATE: 4/22/2025

GENERAL NOTES

1) THE PURPOSE OF THIS PLAT IS TO SUBDIVIDE TRACT II, USS 2135 AS SHOWN ON PLAT NO. 273 INTO LOTS 1-21, SEET KANAX DUTEEN SUBDIVISION.

2) TOTAL AREA = 767,500 SQ FT

3) PARCELS CREATED BY THIS PLAT:
LOTS 1-21, AND TRACT A SEET KANAX DUTEEN SUBDIVISION, PHASE 1

4) THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION HAS SUSPENDED THEIR PROGRAM OF SUBDIVISION PLAN REVIEW AT THE TIME OF THIS SURVEY. CONTACT ADEC FOR INFORMATION ABOUT THEIR REQUIREMENTS FOR DEVELOPMENT OF LOTS WITHIN THIS SUBDIVISION.

5) THE DATE OF THE FIELD SURVEY WAS 9/13-14/2023

6) THIS SURVEY IS SUBJECT TO:
A) PLAT NO. 269, J.R.D.
B) PLAT NO. 273, J.R.D.
C) PLAT NO. 325, J.R.D.
D) PLAT NO. 83-31, J.R.D.
E) PLAT NO. 94-22, J.R.D.
F) PLAT NO. 96-25, J.R.D.
G) PLAT NO. 2006-6, J.R.D.
H) PLAT NO. 2014-43, J.R.D.

7) THIS SURVEY IS SUBJECT TO:
A) EASEMENTS AND NOTES RECORDED JUNE 6, 1951 IN MISCELLANEOUS BOOK 26 AT PAGE 515 FOR THE PURPOSES OF THE CONSTRUCTION, MAINTENANCE, REPAIR, RECONSTRUCTION, AND USE OF ELECTRICAL TRANSMISSION AND DISTRIBUTION SYSTEM.
B) RESERVATION OF EASEMENT FOR HIGHWAY PURPOSES, AND ANY ASSIGNMENTS OR USES THEREOF FOR RECREATIONAL, UTILITY OR OTHER PURPOSES, AS DISCLOSED BY PUBLIC LAND ORDER NO. 601, DATED AUGUST 10, 1949, AND AMENDED BY PUBLIC LAND ORDER NO. 757, DATED OCTOBER 10, 1959; PUBLIC LAND ORDER NO. 842, DATED JUNE 19, 1952; PUBLIC LAND ORDER NO. 1613, DATED APRIL 17, 1958; AND DEPARTMENT OF THE INTERIOR ORDER NO. 2665, DATED OCTOBER 16, 1951, AMENDMENT NO. 1 THERETO, DATED JULY 17, 1952 AND AMENDMENT NO. 2 THERETO, DATED SEPTEMBER 15, 1956, FILED IN THE FEDERAL REGISTER.

8) THE CLOSURE ERROR OF THIS SURVEY DOES NOT EXCEED 1:5000.

9) ALL BEARINGS SHOWN ARE TRUE BEARINGS AS ORIENTED TO THE BASIS OF BEARINGS AND DISTANCES SHOWN ARE REDUCED TO HORIZONTAL FIELD DISTANCES.

10) THIS PLAT HAS BEEN PREPARED WITH THE AID OF A CERTIFICATE TO PLAT FROM ALASKA ESCROW AND TITLE INSURANCE AGENCY, INC. FILE NO. 67154

11) THIS SITE CONTAINS MAPPED WETLANDS.

12) THE VERTICAL ELEVATIONS SHOWN ON THIS PLAT ARE BASED ON THE NATIONAL OCEAN SERVICE BENCH MARK "2200 M 2017" WITH A PUBLISHED ELEVATION OF 27.62' MEAN LOWER LOW WATER. THIS MONUMENT IS A 3.25" DIA. BRASS CAP GROUTED IN A CONCRETE ELECTRICAL VAULT NEAR THE INTERSECTION OF WHITTIER STREET AND WEST 3RD AVENUE.

13) FRONTING NORTH DOUGLAS HIGHWAY SHALL BE ATTAINED THROUGH THE ACCESS CREATED BY THE PRIMARY ROAD SERVICING THE SUBDIVISION SHÉIX̱'W DEIY Í (RED ALDER ROAD). NO ADDITIONAL DRIVEWAYS WILL BE PERMITTED INTO STATE RIGHT OF WAY. PER CBJ 49.35.210(b)(1)&(2)

14) WETLANDS ARE PRESENT ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY.

15) NO LOT SHALL ACCESS DIRECTLY ONTO NORTH DOUGLAS HIGHWAY.

16) THE ONLY ACCESS ALLOWED ACROSS THE PERIMETER OF THIS SUBDIVISION AND MAY NOT BE MODIFIED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120.1 BEST MANAGEMENT PRACTICES.

OWNER'S CERTIFICATE

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY AS SHOWN HERE ON AND THAT I HEREBY ADOPT THIS PLAT OF SUBDIVISION WITH MY FREE CONSENT, AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS AND OTHER OPEN SPACES TO PUBLIC OR PRIVATE USE AS NOTED.

OWNER: JACQUELINE PATA (THRHA) DATE

NOTARY ACKNOWLEDGMENT

STATE OF ALASKA
FIRST JUDICIAL DISTRICT

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS DAY OF NOTARY PUBLIC IN ____, 2024
AND FOR ALASKA
BY:

(SIGNER'S NAME, PRINTED BY NOTARY)

MY COMMISSION EXPIRES:

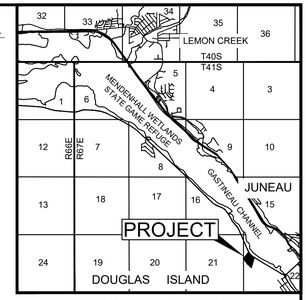
PLANNING COMMISSION PLAT APPROVAL

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

CHAIRMAN OF THE PLANNING COMMISSION DATE
CITY AND BOROUGH OF JUNEAU

ATTEST:

MUNICIPAL CLERK
CITY AND BOROUGH OF JUNEAU

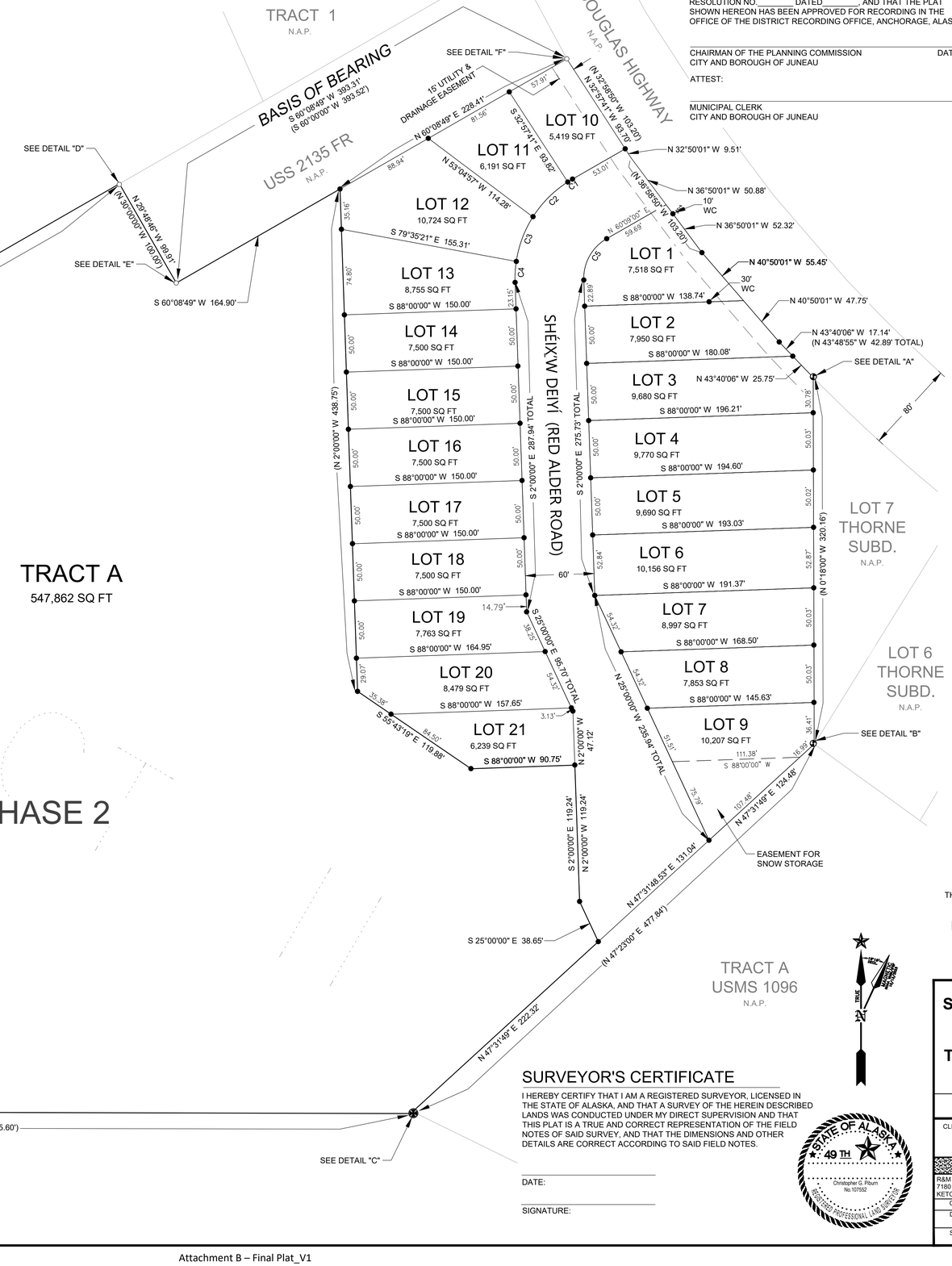


VICINITY MAP

SCALE: 1 INCH = 1 MILE
SOURCE: USGS QUADRANGLE JUNEAU B-2 SE
2017

LEGEND

- 3" ALUMINUM PIPE MONUMENT RECOVERED THIS SURVEY
- BRASS CAP RECOVERED THIS SURVEY
- REBAR WITH 2" CAP RECOVERED THIS SURVEY
- MONUMENT SET THIS SURVEY PER DETAIL
- CBJ — CITY AND BOROUGH OF JUNEAU
- J.R.D. — STATE RECORDER'S OFFICE AT JUNEAU
- N.A.P. — NOT A PART OF THIS PLAT
- PROPERTY LINES A PART OF THIS SURVEY
- PROPERTY LINES NOT A PART OF THIS SURVEY
- EASEMENT LINE THIS SURVEY
- RECORD EASEMENT LINE
- LINES REMOVED THIS SURVEY
- ( ) INDICATES RECORD DATA
- WC — WITNESS CORNER



TRACT A

547,862 SQ FT

PHASE 2

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT THE DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.

DATE:

SIGNATURE:

STATE OF ALASKA
49TH
Christopher G. Riburn
No.107502
REGISTERED PROFESSIONAL LAND SURVEYOR

SCALE 1"=50'

THIS DRAWING MAY BE REDUCED, VERIFY SCALE BEFORE USING

25 50 100 150 200 FEET
10 20 40 60 METERS

1 METER=3.2808333 U.S. SURVEY FEET
1 U.S. ACRE=0.4047 HECTARES

PLAT OF

SEET KANAX DUTEEN SUBDIVISION PHASE 1

A SUBDIVISION OF

TRACT II, A FRACTION OF USS 2135

WITHIN CITY & BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

STATE RECORDER'S OFFICE AT ANCHORAGE

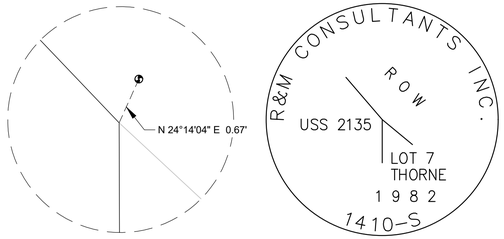
CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801 (CASE NO. SMP2024-0001)

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, AK 99901
PHONE: (907) 225-7917
FAX: (907) 225-3441

CERTIFICATE OF AUTHORIZATION: C576

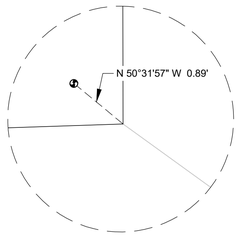
DATE:	DRAWN BY:	JOB NO.
12/24/2025	TSS/CGP	222321.10
SCALE: AS NOTED	APPRVD BY: CGP	SHEET NO: 1 OF 2

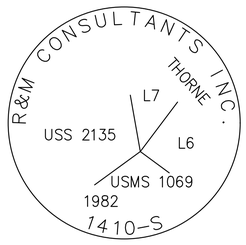
DETAIL "A"



RECOVERED 5/8" DIA. REBAR WITH 3.25" DIA. ALUMINUM CAP PROJECTING 4" ABOVE GROUND IN GOOD CONDITION.

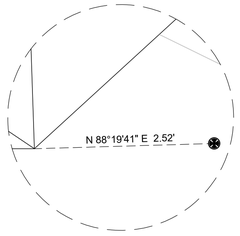
DETAIL "B"

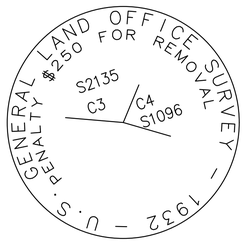




RECOVERED 5/8" DIA. REBAR WITH 3.25" DIA. ALUMINUM CAP PROJECTING 12" ABOVE GROUND IN GOOD CONDITION.

DETAIL "C"





RECOVERED 2.5" DIA. POST MON. WITH 3.25" DIA. BRASS CAP PROJECTING 12" ABOVE GROUND IN GOOD CONDITION

DETAIL "D"

RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP FLUSH TO GROUND IN GOOD CONDITION

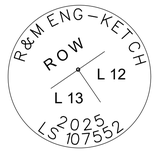
DETAIL "E"

RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP PROJECTING 2" ABOVE GROUND IN GOOD CONDITION

DETAIL "F"

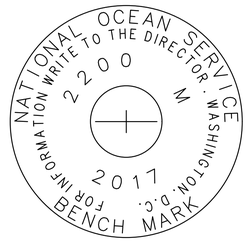
RECOVERED 5/8" REBAR WITH 1.5" RED PLASTIC CAP PROJECTING FLUSH TO GROUND IN GOOD CONDITION

TYPICAL MONUMENT SET



5/8"x30" LONG REBAR AND 2" ALUMINUM CAP WITH PLASTIC INSERT SET THIS SURVEY

DETAIL "2200 M 2017"



RECOVERED 3.25" DIA. BRASS CAP GROUTED IN CONCRETE FLUSH TO GROUND IN GOOD CONDITION.

PLAT OF

SEET KANAX DUTEEN SUBDIVISION PHASE 1

A SUBDIVISION OF

TRACT II, A FRACTION OF USS 2135

WITHIN CITY & BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

STATE RECORDER'S OFFICE AT ANCHORAGE

CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801 (CASE NO. SMP2024-0001)

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
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PHONE: (907) 225-7917
FAX: (907) 225-3441

CERTIFICATE OF AUTHORIZATION: C576

DATE:	DRAWN BY:	JOB NO.
12/24/2025	TSS/CGP	222321.10
SCALE: AS NOTED	APPRVD BY: CGP	SHEET NO: 2 OF 2

Name: Single Family Parcels : 1

North: 100994.5966' East: 493182.3910'

Segment #1 : Line

Course: S36° 50' 01.47"E Length: 52.322'
North: 100952.7208' East: 493213.7566'

Segment #2 : Line

Course: S40° 50' 01.47"E Length: 55.445'
North: 100910.7668' East: 493250.0135'

Segment #3 : Line

Course: S88° 00' 00.00"W Length: 138.742'
North: 100905.9248' East: 493111.3580'

Segment #4 : Line

Course: N2° 00' 00.00"W Length: 22.886'
North: 100928.8009' East: 493110.5592'

Segment #5 : Curve

Length: 43.390' Radius: 40.000'
Delta: 62.15 (d) Tangent: 24.106'
Chord: 41.290' Course: N29° 04' 30.00"E
Course In: N88° 00' 00.00"E Course Out: N29° 51' 00.00"W
RP North: 100930.1969' East: 493150.5348'
End North: 100964.8877' East: 493130.6242'

Segment #6 : Line

Course: N60° 09' 00.00"E Length: 59.688'
North: 100994.5973' East: 493182.3952'

Perimeter: 372.472' Area: 7518.50 Sq. Ft.
Error Closure: 0.0042 Course: N81° 13' 45.96"E
Error North: 0.00065 East: 0.00419

Precision 1: 88185.71

```
********************************************************************************
Name: Single Family Parcels : 2

North: 100910.7691'     East: 493250.0114'

Segment #1  :  Line

Course: S40° 50' 01.47"E     Length: 47.755'
North: 100874.6409'     East: 493281.2335'


Segment #2  :  Line

Course: S43° 40' 06.47"E     Length: 17.136'
North: 100862.2428'     East: 493293.0684'


Segment #3  :  Line

Course: S88° 00' 00.00"W     Length: 180.080'
North: 100855.9581'     East: 493113.0981'


Segment #4  :  Line

Course: N2° 00' 00.00"W     Length: 50.000'
North: 100905.9276'     East: 493111.3531'


Segment #5  :  Line

Course: N88° 00' 00.00"E     Length: 138.742'
North: 100910.7696'     East: 493250.0086'


Perimeter: 433.712'     Area: 7950.31 Sq. Ft.
Error Closure:           0.0028     Course: N79° 58' 59.76"W
Error North:          0.00049     East: -0.00277

Precision  1: 154896.43

********************************************************************************
Name: Single Family Parcels : 3

North: 100862.2422'     East: 493293.0686'

Segment #1  :  Line

Course: S43° 40' 06.47"E     Length: 25.754'
North: 100843.6160'     East: 493310.8486'
```

Segment #2 : Line

Course: S0° 09' 11.47"E Length: 30.778'
North: 100812.8361' East: 493310.9309'

Segment #3 : Line

Course: S88° 00' 00.00"W Length: 196.210'
North: 100805.9885' East: 493114.8404'

Segment #4 : Line

Course: N2° 00' 00.00"W Length: 50.000'
North: 100855.9580' East: 493113.0955'

Segment #5 : Line

Course: N88° 00' 00.00"E Length: 180.080'
North: 100862.2427' East: 493293.0658'

Perimeter: 482.821' Area: 9680.12 Sq. Ft.
Error Closure: 0.0029 Course: N79° 35' 38.46"W
Error North: 0.00053 East: -0.00288

Precision 1: 166489.66

****
Name: Single Family Parcels : 4

North: 100812.8356' East: 493310.9338'

Segment #1 : Line

Course: S0° 09' 11.47"E Length: 50.026'
North: 100762.8058' East: 493311.0675'

Segment #2 : Line

Course: S88° 00' 00.00"W Length: 194.597'
North: 100756.0143' East: 493116.5861'

Segment #3 : Line

Course: N2° 00' 00.00"W Length: 50.000'
North: 100805.9839' East: 493114.8411'

Segment #4 : Line

Course: N88° 00' 00.00"E Length: 196.210'
North: 100812.8315' East: 493310.9316'

Perimeter: 490.833' Area: 9770.17 Sq. Ft.
Error Closure: 0.0046 Course: S28° 12' 59.97"W
Error North: -0.00409 East: -0.00220

Precision 1: 106704.35

****
Name: Single Family Parcels : 5

North: 100712.7855' East: 493311.2458'

Segment #1 : Line

Course: S88° 00' 00.00"W Length: 193.030'
North: 100706.0489' East: 493118.3334'

Segment #2 : Line

Course: N2° 00' 00.00"W Length: 50.000'
North: 100756.0184' East: 493116.5884'

Segment #3 : Line

Course: N88° 00' 00.00"E Length: 194.597'
North: 100762.8099' East: 493311.0699'

Segment #4 : Line

Course: S0° 12' 15.11"E Length: 50.025'
North: 100712.7902' East: 493311.2482'

Perimeter: 487.652' Area: 9690.68 Sq. Ft.
Error Closure: 0.0052 Course: N26° 39' 39.60"E
Error North: 0.00465 East: 0.00234

Precision 1: 93778.85

****
Name: Single Family Parcels : 6

North: 100659.9173'   East: 493311.4342'

Segment #1 : Line

Course: S88° 00' 00.00"W   Length: 191.373'
North: 100653.2386'   East: 493120.1808'

Segment #2 : Line

Course: N2° 00' 00.00"W   Length: 52.843'
North: 100706.0464'   East: 493118.3367'

Segment #3 : Line

Course: N88° 00' 00.00"E   Length: 193.030'
North: 100712.7831'   East: 493311.2491'

Segment #4 : Line

Course: S0° 12' 15.11"E   Length: 52.869'
North: 100659.9134'   East: 493311.4376'

Perimeter: 490.114'   Area: 10156.41 Sq. Ft.
Error Closure: 0.0051   Course: S40° 17' 25.86"E
Error North: -0.00392   East: 0.00332

Precision 1: 96100.00

****
Name: Single Family Parcels : 7

North: 100609.8903'   East: 493311.5344'

Segment #1 : Line

Course: S88° 00' 00.00"W   Length: 168.503'
North: 100604.0098'   East: 493143.1371'

Segment #2 : Line

Course: N25° 00' 00.00"W Length: 54.318'
North: 100653.2404' East: 493120.1804'

Segment #3 : Line

Course: N88° 00' 00.00"E Length: 191.373'
North: 100659.9191' East: 493311.4339'

Segment #4 : Line

Course: S0° 06' 53.00"E Length: 50.027'
North: 100609.8892' East: 493311.5340'

Perimeter: 464.221' Area: 8996.91 Sq. Ft.
Error Closure: 0.0012 Course: S18° 59' 26.51"W
Error North: -0.00111 East: -0.00038

Precision 1: 386850.00

****

Name: Single Family Parcels : 8

North: 100559.8634' East: 493311.6346'

Segment #1 : Line

Course: S88° 00' 00.00"W Length: 145.634'
North: 100554.7810' East: 493166.0933'

Segment #2 : Line

Course: N25° 00' 00.00"W Length: 54.318'
North: 100604.0116' East: 493143.1367'

Segment #3 : Line

Course: N88° 00' 00.00"E Length: 168.503'
North: 100609.8922' East: 493311.5340'

Segment #4 : Line

Course: S0° 06' 53.00"E Length: 50.027'
North: 100559.8623' East: 493311.6342'

Perimeter: 418.482' Area: 7853.43 Sq. Ft.
Error Closure: 0.0012 Course: S18° 59' 26.52"W
Error North: -0.00111 East: -0.00038

Precision 1: 348733.33

****
Name: Single Family Parcels : 9

North: 100523.4541' East: 493311.7075'

Segment #1 : Line

Course: S47° 31' 48.53"W Length: 124.477'
North: 100439.4049' East: 493219.8870'

Segment #2 : Line

Course: N25° 00' 00.00"W Length: 127.301'
North: 100554.7779' East: 493166.0877'

Segment #3 : Line

Course: N88° 00' 00.00"E Length: 145.634'
North: 100559.8603' East: 493311.6289'

Segment #4 : Line

Course: S0° 06' 53.00"E Length: 36.409'
North: 100523.4504' East: 493311.7018'

Perimeter: 433.821' Area: 10207.35 Sq. Ft.
Error Closure: 0.0067 Course: S56° 42' 50.59"W
Error North: -0.00370 East: -0.00564

Precision 1: 64749.25

****
Name: Single Family Parcels : 10

North: 101014.3844' East: 493096.5670'

Segment #1 : Line

Course: N32° 57' 41.20"W Length: 93.816'

North: 101093.1029'   East: 493045.5220'

Segment #2 : Line

Course: N60° 08' 48.53"E   Length: 57.914'
North: 101121.9293'   East: 493095.7475'

Segment #3 : Line

Course: S32° 57' 41.20"E   Length: 93.699'
North: 101043.3115'   East: 493146.7273'

Segment #4 : Line

Course: S60° 09' 00.00"W   Length: 53.007'
North: 101016.9268'   East: 493100.7501'

Segment #5 : Curve

Length: 4.900'   Radius: 100.000'
Delta: 2.81 (d)   Tangent: 2.452'
Chord: 4.900'   Course: S58° 44' 43.93"W
Course In: S29° 51' 00.00"E   Course Out: N32° 39' 32.15"W
RP North: 100930.1936'   East: 493150.5232'
End North: 101014.3845'   East: 493096.5612'

Perimeter: 303.339'   Area: 5418.60 Sq. Ft.
Error Closure: 0.0058   Course: N89° 33' 58.75"W
Error North: 0.00004   East: -0.00584

Precision 1: 52300.00

****
Name: Single Family Parcels : 11

End North: 101014.3844'   East: 493096.5670'

Segment #1 : Curve

Length: 43.430'   Radius: 100.000'
Delta: 24.88 (d)   Tangent: 22.064'
Chord: 43.090'   Course: S44° 53' 55.09"W
Course In: S32° 39' 32.15"E   Course Out: N57° 32' 37.67"W
RP North: 100930.1946'   East: 493150.5307'
End North: 100983.8613'   East: 493066.1518'

Segment #2 : Line

Course: N53° 04' 56.73"W Length: 114.275'
North: 101052.5054' East: 492974.7848'

Segment #3 : Line

Course: N60° 08' 48.53"E Length: 81.559'
North: 101093.1043' East: 493045.5221'

Segment #4 : Line

Course: S32° 57' 41.20"E Length: 93.816'
North: 101014.3858' East: 493096.5672'

Perimeter: 333.083' Area: 6190.83 Sq. Ft.
Error Closure: 0.0014 Course: N7° 14' 07.04"E
Error North: 0.00140 East: 0.00018

Precision 1: 237678.57

****

Name: Single Family Parcels : 12

End North: 100983.8601' East: 493066.1505'

Segment #1 : Curve

Length: 41.760' Radius: 100.000'
Delta: 23.93 (d) Tangent: 21.188'
Chord: 41.460' Course: S20° 29' 35.50"W
Course In: S57° 32' 37.67"E Course Out: N81° 28' 11.34"W
RP North: 100930.1946' East: 493150.5307'
End North: 100945.0240' East: 493051.6356'

Segment #2 : Line

Course: N79° 35' 21.41"W Length: 155.313'
North: 100973.0890' East: 492898.8823'

Segment #3 : Line

Course: N2° 00' 00.00"W Length: 35.159'

North: 101008.2276'   East: 492897.6552'

Segment #4 : Line

Course: N60° 08' 48.53"E   Length: 88.936'
North: 101052.5000'   East: 492974.7932'

Segment #5 : Line

Course: S53° 04' 56.73"E   Length: 114.275'
North: 100983.8560'   East: 493066.1602'

Perimeter: 435.442'   Area: 10724.43 Sq. Ft.
Error Closure: 0.0105   Course: S66° 46' 04.72"E
Error North: -0.00413   East: 0.00962

Precision 1: 41442.86

****
Name: Single Family Parcels : 13

North: 100926.7047'   East: 493050.5916'

Segment #1 : Line

Course: S2° 00' 00.00"E   Length: 23.146'
North: 100903.5688'   East: 493051.3996'

Segment #2 : Line

Course: S88° 00' 00.00"W   Length: 150.000'
North: 100898.3339'   East: 492901.4909'

Segment #3 : Line

Course: N2° 00' 00.00"W   Length: 16.000'
North: 100914.3241'   East: 492900.9326'

Segment #4 : Line

Course: N2° 00' 00.00"W   Length: 58.801'
North: 100973.0883'   East: 492898.8805'

Segment #5 : Line

Course: S79° 35' 21.41"E   Length: 155.313'
North: 100945.0233'   East: 493051.6337'

Segment #6 : Curve

Length: 18.380'   Radius: 100.000'
Delta: 10.53 (d)   Tangent: 9.215'
Chord: 18.350'   Course: S3° 15' 54.33"W
Course In: S81° 28' 11.34"E   Course Out: S88° 00' 00.00"W
RP North: 100930.1903'   East: 493150.5275'
End North: 100926.7031'   East: 493050.5886'

Perimeter: 421.640'   Area: 8755.08 Sq. Ft.
Error Closure: 0.0035   Course: S62° 27' 34.26"W
Error North: -0.00161   East: -0.00308

Precision 1: 120460.00

****
Name: Single Family Parcels : 14

North: 100853.6028'   East: 493053.1444'

Segment #1 : Line

Course: S88° 00' 00.00"W   Length: 150.000'
North: 100848.3679'   East: 492903.2358'

Segment #2 : Line

Course: N2° 00' 00.00"W   Length: 50.000'
North: 100898.3374'   East: 492901.4908'

Segment #3 : Line

Course: N88° 00' 00.00"E   Length: 150.000'
North: 100903.5723'   East: 493051.3994'

Segment #4 : Line

Course: S2° 00' 00.00"E   Length: 50.000'
North: 100853.6028'   East: 493053.1444'

Perimeter: 400.000' Area: 7500.00 Sq. Ft.
Error Closure: 0.0000 Course: N0° 00' 00.00"E
Error North: 0.00000 East: 0.00000

Precision 1: 400000000.00

****
Name: Single Family Parcels : 15

North: 100803.6333' East: 493054.8894'

Segment #1 : Line

Course: S88° 00' 00.00"W Length: 150.000'
North: 100798.3983' East: 492904.9808'

Segment #2 : Line

Course: N2° 00' 00.00"W Length: 16.000'
North: 100814.3886' East: 492904.4224'

Segment #3 : Line

Course: N2° 00' 00.00"W Length: 34.000'
North: 100848.3679' East: 492903.2358'

Segment #4 : Line

Course: N88° 00' 00.00"E Length: 150.000'
North: 100853.6028' East: 493053.1444'

Segment #5 : Line

Course: S2° 00' 00.00"E Length: 50.000'
North: 100803.6333' East: 493054.8894'

Perimeter: 400.000' Area: 7500.00 Sq. Ft.
Error Closure: 0.0000 Course: S0° 00' 00.00"E
Error North: -0.00000 East: 0.00000

Precision 1: 400000000.00

****
Name: Single Family Parcels : 16

North: 100748.4288' East: 492906.7257'

Segment #1 : Line

Course: N2° 00' 00.00"W Length: 50.000'
North: 100798.3983' East: 492904.9808'

Segment #2 : Line

Course: N88° 00' 00.00"E Length: 150.000'
North: 100803.6333' East: 493054.8894'

Segment #3 : Line

Course: S2° 00' 00.00"E Length: 50.000'
North: 100753.6637' East: 493056.6344'

Segment #4 : Line

Course: S88° 00' 00.00"W Length: 150.000'
North: 100748.4288' East: 492906.7257'

Perimeter: 400.000' Area: 7500.00 Sq. Ft.
Error Closure: 0.0000 Course: N0° 00' 00.00"E
Error North: 0.00000 East: 0.00000

Precision 1: 400000000.00

****
Name: Single Family Parcels : 17

North: 100748.4288' East: 492906.7257'

Segment #1 : Line

Course: N88° 00' 00.00"E Length: 150.000'
North: 100753.6637' East: 493056.6344'

Segment #2 : Line

Course: S2° 00' 00.00"E Length: 50.000'
North: 100703.6942' East: 493058.3793'

Segment #3 : Line

Course: S88° 00' 00.00"W   Length: 150.000'
North: 100698.4592'   East: 492908.4707'

Segment #4 : Line

Course: N2° 00' 00.00"W   Length: 16.000'
North: 100714.4495'   East: 492907.9123'

Segment #5 : Line

Course: N2° 00' 00.00"W   Length: 34.000'
North: 100748.4288'   East: 492906.7257'

Perimeter: 400.000'   Area: 7500.00 Sq. Ft.
Error Closure: 0.0000   Course: S0° 00' 00.00"E
Error North: -0.00000   East: 0.00000

Precision 1: 400000000.00

****
Name: Single Family Parcels : 18

North: 100653.7246'   East: 493060.1243'

Segment #1 : Line

Course: S88° 00' 00.00"W   Length: 150.000'
North: 100648.4897'   East: 492910.2157'

Segment #2 : Line

Course: N2° 00' 00.00"W   Length: 50.000'
North: 100698.4592'   East: 492908.4707'

Segment #3 : Line

Course: N88° 00' 00.00"E   Length: 150.000'
North: 100703.6942'   East: 493058.3793'

Segment #4 : Line

Course: S2° 00' 00.00"E   Length: 50.000'

North: 100653.7246'   East: 493060.1243'

Perimeter: 400.000'   Area: 7500.00 Sq. Ft.
Error Closure: 0.0000   Course: N0° 00' 00.00"E
Error North: 0.00000   East: 0.00000

Precision 1: 400000000.00

****
Name: Single Family Parcels : 19

North: 100638.9448'   East: 493060.6404'

Segment #1 : Line

Course: S25° 00' 00.00"E   Length: 38.252'
North: 100604.2786'   East: 493076.8056'

Segment #2 : Line

Course: S88° 00' 00.00"W   Length: 164.946'
North: 100598.5219'   East: 492911.9561'

Segment #3 : Line

Course: N2° 00' 00.00"W   Length: 16.000'
North: 100614.5121'   East: 492911.3977'

Segment #4 : Line

Course: N2° 00' 00.00"W   Length: 34.000'
North: 100648.4914'   East: 492910.2111'

Segment #5 : Line

Course: N88° 00' 00.00"E   Length: 150.000'
North: 100653.7264'   East: 493060.1197'

Segment #6 : Line

Course: S2° 00' 00.00"E   Length: 14.789'
North: 100638.9454'   East: 493060.6359'

Perimeter: 417.987' Area: 7763.14 Sq. Ft.
Error Closure: 0.0046 Course: N83° 21' 19.84"W
Error North: 0.00053 East: -0.00456

Precision 1: 90867.39

****
Name: Single Family Parcels : 20

North: 100569.4719' East: 492912.9751'

Segment #1 : Line

Course: N2° 00' 00.00"W Length: 29.066'
North: 100598.5242' East: 492911.9605'

Segment #2 : Line

Course: N88° 00' 00.00"E Length: 164.946'
North: 100604.2808' East: 493076.8100'

Segment #3 : Line

Course: S25° 00' 00.00"E Length: 54.318'
North: 100555.0502' East: 493099.7667'

Segment #4 : Line

Course: S88° 00' 00.00"W Length: 157.649'
North: 100549.5483' East: 492942.2127'

Segment #5 : Line

Course: N55° 43' 18.94"W Length: 35.379'
North: 100569.4747' East: 492912.9777'

Perimeter: 441.358' Area: 8479.38 Sq. Ft.
Error Closure: 0.0039 Course: N43° 44' 01.35"E
Error North: 0.00278 East: 0.00266

Precision 1: 113171.79

****
Name: Single Family Parcels : 21

North: 100505.1210'   East: 493102.7302'

Segment #1 : Line

Course: S88° 00' 00.00"W   Length: 90.751'
North: 100501.9539'   East: 493012.0355'

Segment #2 : Line

Course: N55° 43' 18.94"W   Length: 84.502'
North: 100549.5451'   East: 492942.2120'

Segment #3 : Line

Course: N88° 00' 00.00"E   Length: 157.649'
North: 100555.0470'   East: 493099.7659'

Segment #4 : Line

Course: S25° 00' 00.00"E   Length: 3.132'
North: 100552.2103'   East: 493101.0887'

Segment #5 : Line

Course: S2° 00' 00.00"E   Length: 47.117'
North: 100505.1190'   East: 493102.7332'

Perimeter: 383.151'   Area: 6238.84 Sq. Ft.
Error Closure: 0.0036   Course: S55° 44' 23.69"E
Error North: -0.00203   East: 0.00298

Precision 1: 106430.56

****
Name: Single Family Parcels : Tract A

North: 100505.1210'   East: 493102.7302'

Segment #1 : Line

Course: S2° 00' 00.00"E   Length: 119.238'
North: 100385.9537'   East: 493106.8916'

Segment #2 : Line

Course: S25° 00' 00.00"E Length: 38.652'
North: 100350.9249' East: 493123.2258'

Segment #3 : Line

Course: S47° 31' 48.53"W Length: 222.319'
North: 100200.8139' East: 492959.2353'

Segment #4 : Line

Course: N89° 51' 11.47"W Length: 765.600'
North: 100202.7757' East: 492193.6378'

Segment #5 : Line

Course: N0° 08' 48.53"E Length: 516.980'
North: 100719.7540' East: 492194.9625'

Segment #6 : Line

Course: N60° 06' 56.32"E Length: 588.210'
North: 101012.8302' East: 492704.9599'

Segment #7 : Line

Course: S29° 48' 45.61"E Length: 99.908'
North: 100926.1427' East: 492754.6318'

Segment #8 : Line

Course: N60° 08' 48.53"E Length: 164.902'
North: 101008.2266' East: 492897.6501'

Segment #9 : Line

Course: S2° 00' 00.00"E Length: 35.159'
North: 100973.0880' East: 492898.8772'

Segment #10 : Line

Course: S2° 00' 00.00"E Length: 58.801'

North: 100914.3238' East: 492900.9293'

Segment #11 : Line

Course: S2° 00' 00.00"E Length: 16.000'
North: 100898.3335' East: 492901.4877'

Segment #12 : Line

Course: S2° 00' 00.00"E Length: 50.000'
North: 100848.3640' East: 492903.2327'

Segment #13 : Line

Course: S2° 00' 00.00"E Length: 34.000'
North: 100814.3847' East: 492904.4192'

Segment #14 : Line

Course: S2° 00' 00.00"E Length: 16.000'
North: 100798.3945' East: 492904.9776'

Segment #15 : Line

Course: S2° 00' 00.00"E Length: 50.000'
North: 100748.4249' East: 492906.7226'

Segment #16 : Line

Course: S2° 00' 00.00"E Length: 34.000'
North: 100714.4456' East: 492907.9092'

Segment #17 : Line

Course: S2° 00' 00.00"E Length: 16.000'
North: 100698.4554' East: 492908.4676'

Segment #18 : Line

Course: S2° 00' 00.00"E Length: 50.000'
North: 100648.4858' East: 492910.2126'

Segment #19 : Line

Course: S2° 00' 00.00"E Length: 34.000'
North: 100614.5065' East: 492911.3991'

Segment #20 : Line

Course: S2° 00' 00.00"E Length: 16.000'
North: 100598.5163' East: 492911.9575'

Segment #21 : Line

Course: S2° 00' 00.00"E Length: 29.066'
North: 100569.4640' East: 492912.9721'

Segment #22 : Line

Course: S55° 43' 18.94"E Length: 35.379'
North: 100549.5376' East: 492942.2071'

Segment #23 : Line

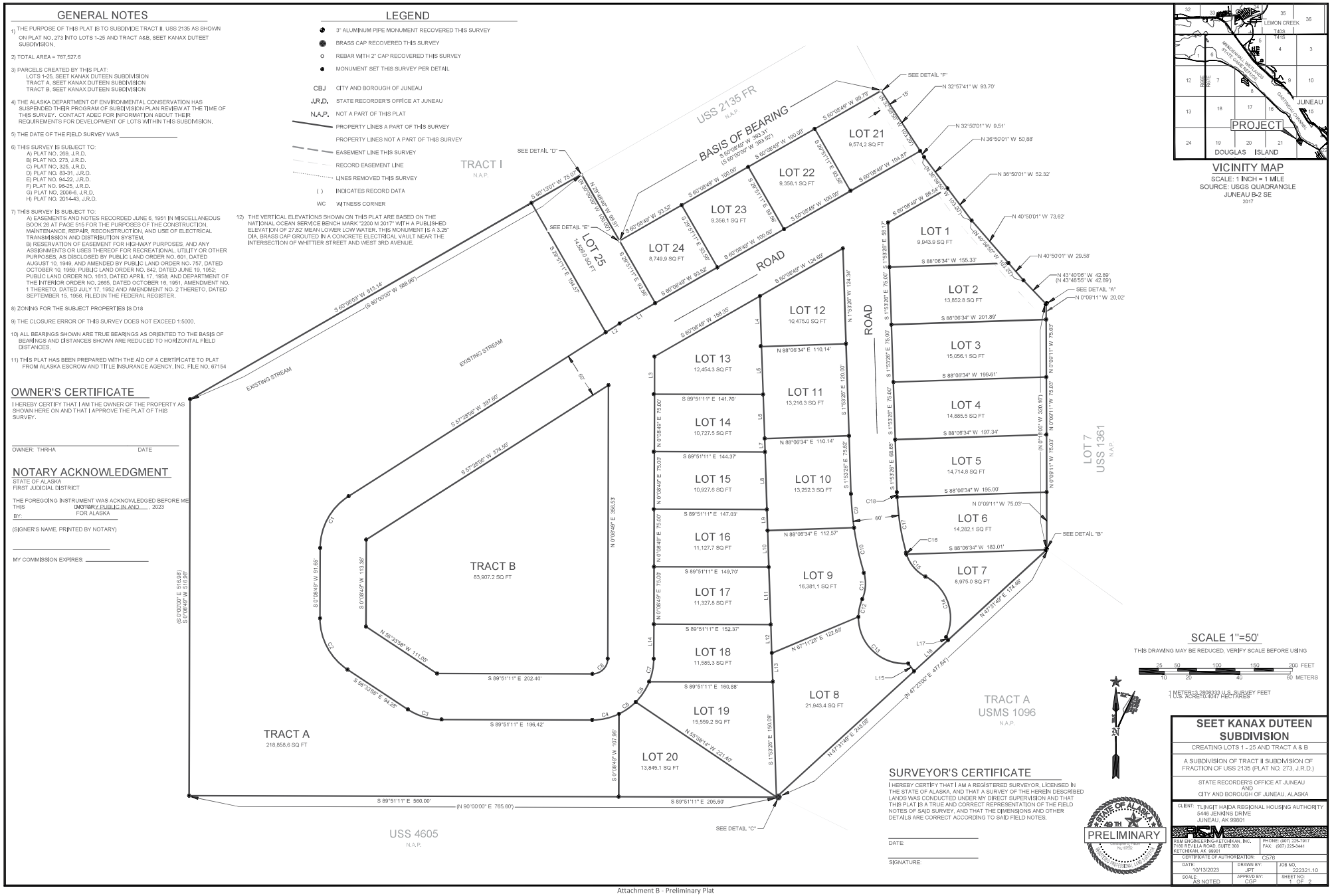
Course: S55° 43' 18.94"E Length: 84.502'
North: 100501.9464' East: 493012.0306'

Segment #24 : Line

Course: N88° 00' 00.00"E Length: 90.751'
North: 100505.1135' East: 493102.7253'

Perimeter: 3165.467' Area: 547862.49 Sq. Ft.
Error Closure: 0.0090 Course: S33° 15' 19.31"W
Error North: -0.00750 East: -0.00492

Precision 1: 351718.89



Attachment B - Preliminary Plat

Attachment D – SMP24-01 Prelim Plat

MEMORANDUM

CITY/BOROUGH OF JUNEAU
155 South Seward Street, Juneau, Alaska 99801

DATE: March 4, 2010

TO: Planning Commission

FROM: Beth McKibben, Planner
Community Development Department

FILE NO.: MAP2008-00004

PROPOSAL: A Zone Change request from D-3 to D-18 for USS 2135 Tract II, USS 2135 Tract I, Tract A, and USMS 2305 Lot 15.

GENERAL INFORMATION

Applicants:	Murray Walsh Corporation of Catholic Bishops
Property Owners:	Site 4 - Corp. of Catholic Bishops Site 5 - Tigar Properties Site 5 - Grant Creek Homes
Property Addresses:	Site 4 - N. Douglas Highway Site 5 - N. Douglas Highway Site 5 - 4305 N. Douglas Highway
Legal Descriptions:	Site 4 - USS 2135 Tract II Site 5 - USS 2135 Tract I, Tract A Site 5 - USMS 2305 Lot 15
Parcel Code Nos.:	Site 4 - 6-D06-0-109-002-0 Site 5 - 6-D06-0-111-002-0 Site 5 - 6-D06-0-113-001-0
Site Sizes:	Site 4 - 17.62 acres Site 5 - 8.78 acres Site 5 - 1.62 acres
Zoning:	Site 4 - D-3 Site 5 - D-3
Utilities:	City water & sewer available

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

Access:	Douglas Highway
Existing Land Use:	Site 4 - vacant Site 5 - vacant and single family residential
Surrounding Land Use:	North - single family/duplex, vacant (D-3) South - single family/duplex, multi-family (D-5,D-18, D5(T)D-18) East - single family/duplex, multi-family, bulk fuel (D3, D5, WI) West - vacant (RR)

BACKGROUND

On December 8, 2009 the Planning Commission held a public hearing and considered requests to rezone five sites. Sites 1 and 2 were rezoned from D3(T)D18 to D18 by the Planning Commission as provided by CBJ§49.70, Article VII. Site 3 was forwarded to the Assembly with a recommendation to be rezoned to D10. Sites 4 and 5 were referred to the Subdivision Review Committee for further discussion.

The Subdivision Review Committee met on February 5, 2010 and discussed Sites 4 and 5. They asked staff to present four alternatives. The alternatives are discussed below.

Staff notes there are two new pieces of information. First, the only portion of Grant Creek that is available to anadromous fish, and is therefore subject to the 50-foot stream-side setback is on the downhill side of the highway. Neither Site 4 nor 5 is subject to the streamside set back.

Second, the property owner of Site 5 has conveyed, through his representative, that he is not in favor of consolidating the two lots. If you review the original staff report the consolidation of site five into one lot was a recommendation prior to rezoning. Because USMS 2305 Lot 15 is only 1.62 acres in size and the requested zoning is the most densely developable residential zoning, staff still recommends the consolidation of site 5 from two lots into one.

ALTERNATIVES

Alternative 1
Rezone Site 4 and 5 from D-3 to D-18 and create a 200-foot no build buffer from the highway; this is staff's original recommendation. This option maximizes the development potential of the area, allowing the most units, clustering development away from the road, while at the same time respecting the Comprehensive Plan. Map A illustrates this option. If this is the option recommended to the Assembly staff recommends the following conditions:

Site 4 Recommend the Assembly rezone the subject parcel from D-3 to D-18 with the following conditions:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads when possible.

2. A 200 foot no development buffer, beyond what is needed to provide access and infrastructure, be established from the highway.

Site 5 Recommend the Assembly rezone the subject parcels from D-3 to D-18 with the following conditions:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads when possible.

2. A 200 foot no development, beyond what needed to provide access and infrastructure, buffer be established from the highway.

3. Furthermore, staff recommends that site 5 only be rezoned from D-3 with the condition that prior to rezoning the two lots will consolidated into one.

Alternative 2

The second alternative is illustrated on Map C. For this alternative, all of Sites 4 and 5 would be rezoned to D-18 and a 50-foot no development buffer, beyond what is required to provide access and infrastructure, would be created along the highway and where lot lines abut land within a lower density zoning district. This option also maximizes the potential development of the sites. The 50-foot buffer does provide some protection to adjacent low density development but does not comply with the intent of the comprehensive plan. Staff recommends the following conditions should this alternative be recommended to the Assembly:

Site 4 Recommend the Assembly rezone the subject parcel from D-3 to D-18 with the following conditions:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads, when possible.

2. A 50-foot no development buffer, beyond what is needed to provide access and infrastructure, be established along the highway and where lot lines abut land within a lower density zoning district.

Site 5 Recommend the Assembly rezone the subject parcels from D-3 to D-18 with the following conditions:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads, when possible.

2. A 50-foot no development buffer, beyond what is needed to provide access and infrastructure, be established along the highway and where lot lines abut land within a lower density zoning district.

3. Furthermore, staff recommends that site 5 only be rezoned from D-3 with the condition that prior to rezoning the two lots will consolidated into one.

Alternative 3

Alternative 3 follows the recommendation of the 2008 Comprehensive Plan literally. For Sites 4 and 5 this creates a "split lot zone" where a section of property along the highway is zoned D-5 and the upper portions of the sites are zoned D-18. This option reduces the maximum number of units that could be built. It also creates administrative challenges because of the way the Table of Permissible Uses is worded—D-5 only allows up to one single-family dwelling per lot. One method of addressing this challenge would be to subdivide the property following the district boundaries, and thereby eliminating the "split lot zone". This alternative is illustrated by Map B. If this alternative is recommended to the Assembly staff recommends the following conditions:

Site 4 Recommend the Assembly approve the rezone the subject lot from D-3 to D-5 and D-18 as shown on Map B with the following condition:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads where possible.

Site 5 Recommend the Assembly approve the rezone of USS 2135 Tract I, Tract A from D-3 to D-5 and D-18 as shown on Map B with the following conditions:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads where possible.

Site 5 Recommend the Assembly approve the rezone of USMS 2305 Lot 15 from D-3 to D-5.

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads where possible.

Staff notes that if this small lot is zoned entirely D-5, than the recommendation for lot consolidation is not made.

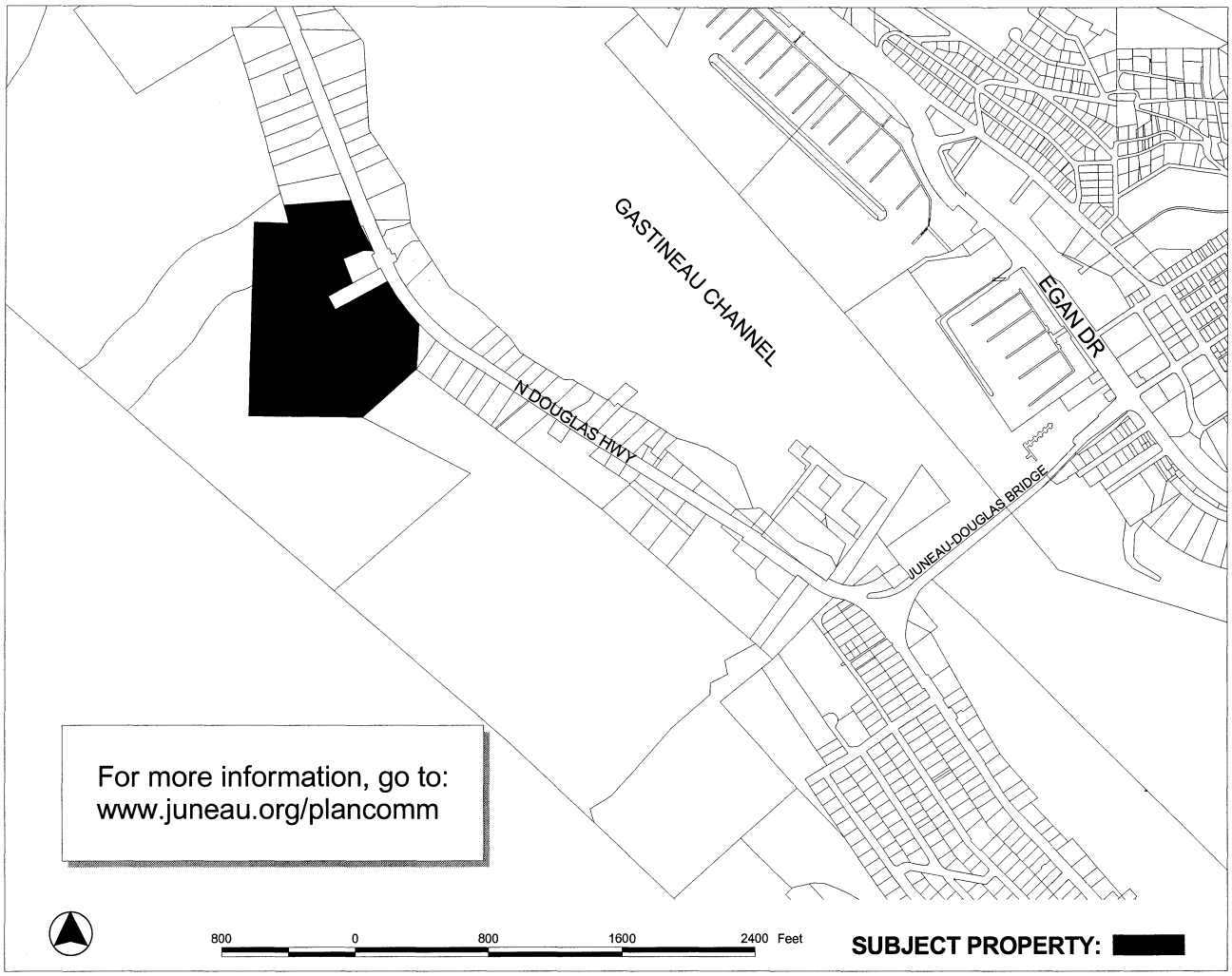
Alternative 4

The fourth alternative is to create an administrative framework that will come into play when the lots are subdivided or development permits are applied for. This framework would be structured in such a way as to embrace the spirit of the Comprehensive Plan by keeping the areas nearest the highway and adjacent to the existing low density residential development in low density development, and provide for more dense development toward the rear of the site. This alternative would be very difficult to administer. Since this zoning could be in place for decades it would very difficult to track over time, with changes to staff and property owners it is highly likely this could get overlooked, or be confusing, at the time of development.

ATTACHMENTS:

Map A – D-18 with 200-foot buffer
Map B – D-18 and D-3 as show in the 2008 Comprehensive Plan
Map C – D-18 with 50-foot buffer
Attachment D - Email from Kaysa Korpela
Attachment E - Staff report and attachments MAP 2008-0004

NOTICE OF PUBLIC MEETING



PROPOSAL: A Zone Change Request for parcels: USS 2135 TR II; USS 2135 TR I TR A; and USMS 2305 LT 15 from D-3 to D-18.

FILE NO:	MAP2008-00004	**APPLICANT:**	MURRAY WALSH
TO:	**Adjacent Property Owners**	**PROPERTY OWNER:**	CORP OF CATHOLIC BISHOP; TIGAR PROP.; GRANT CREEK HOMES LLC
HEARING DATE:	March 9, 2010		
HEARING TIME:	7:00 P.M.	**PROPERTY ADDRESS:**	N DOUGLAS HWY
PLACE:	**ASSEMBLY CHAMBERS** Municipal Bldg. 155 South Seward St., Juneau, Alaska 99801	**PARCEL CODE NUMBER:**	6-D06-0-109-002-0; 111-002-0; 113-001-0
		SITE SIZE:	28.02 acres
ACCESS:	DOUGLAS HWY	**ZONING:**	D-3

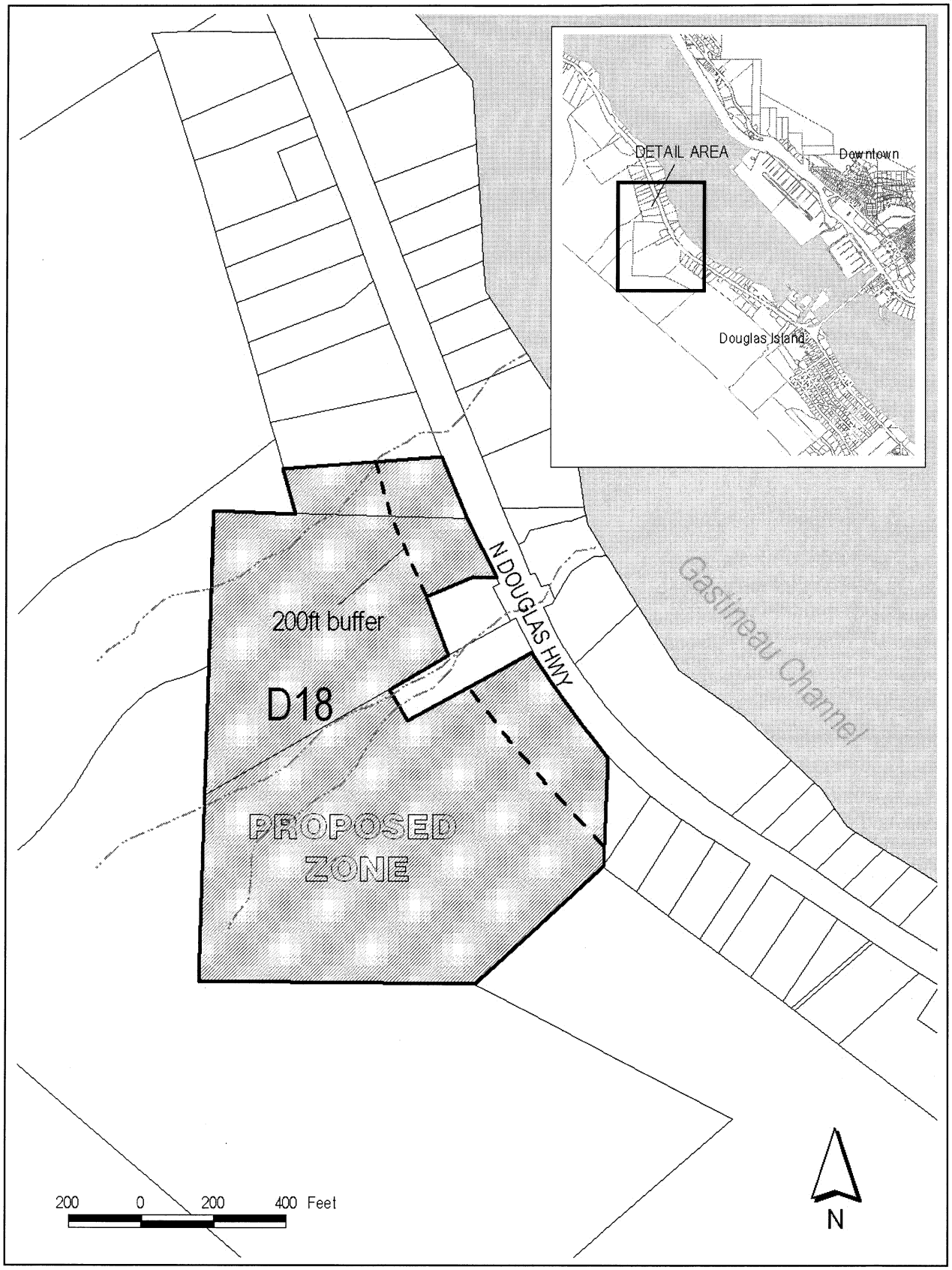
PROPERTY OWNERS PLEASE NOTE:

This case is being presented as a continuation from the previous meeting on December 8, 2009. You are invited to attend this meeting, however public testimony has been closed. Public Testimony may be re-opened at the descretion of the Commission. Written testimony may be conisdered.

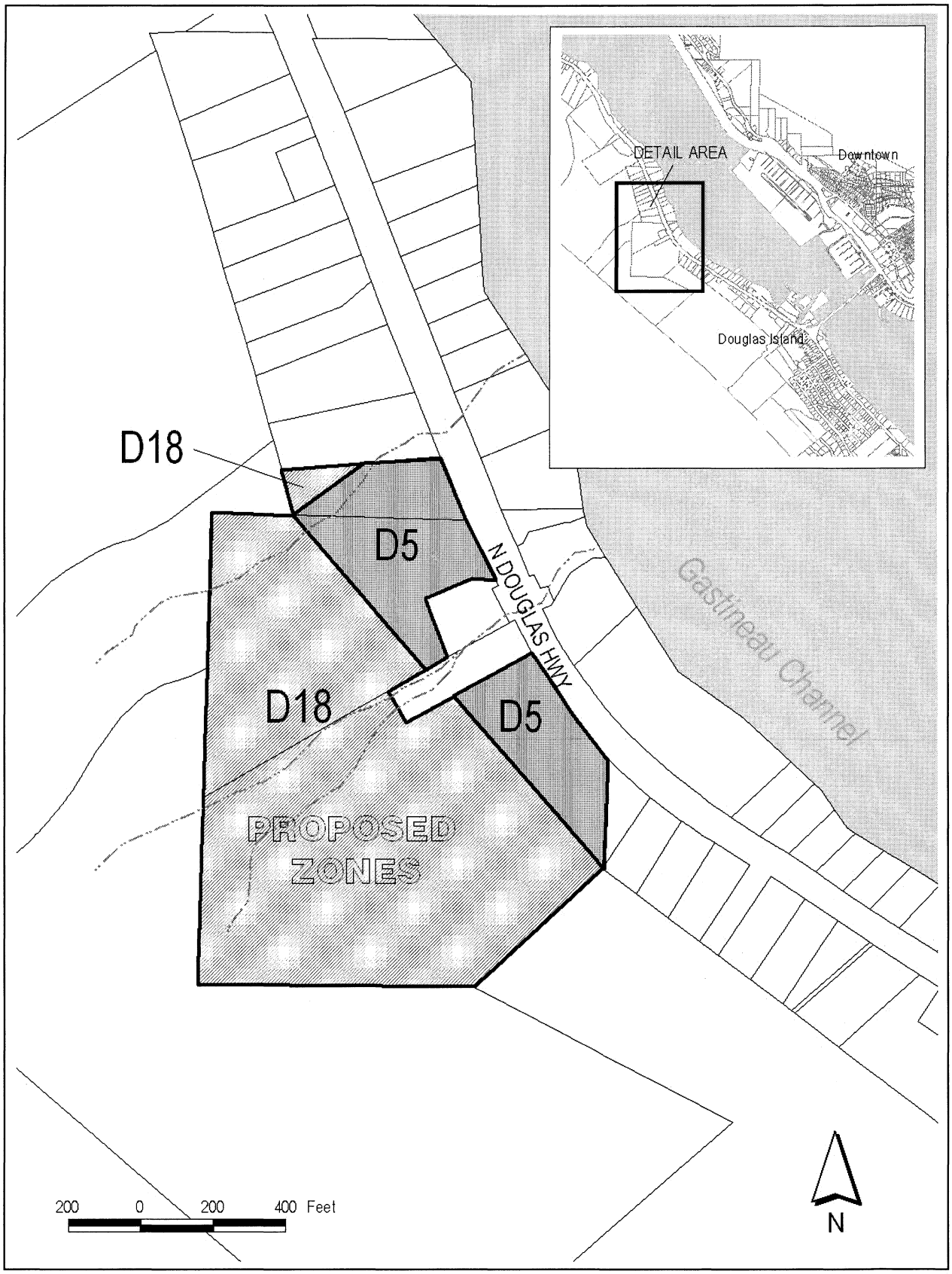
If you have questions, please contact Beth McKibben at (907)-586-0465 or e-mail: beth_mckibben@ci.juneau.ak.us

Planning Commission Agendas, Staff Reports and Meeting Results can be viewed at www.juneau.org/plancomm.

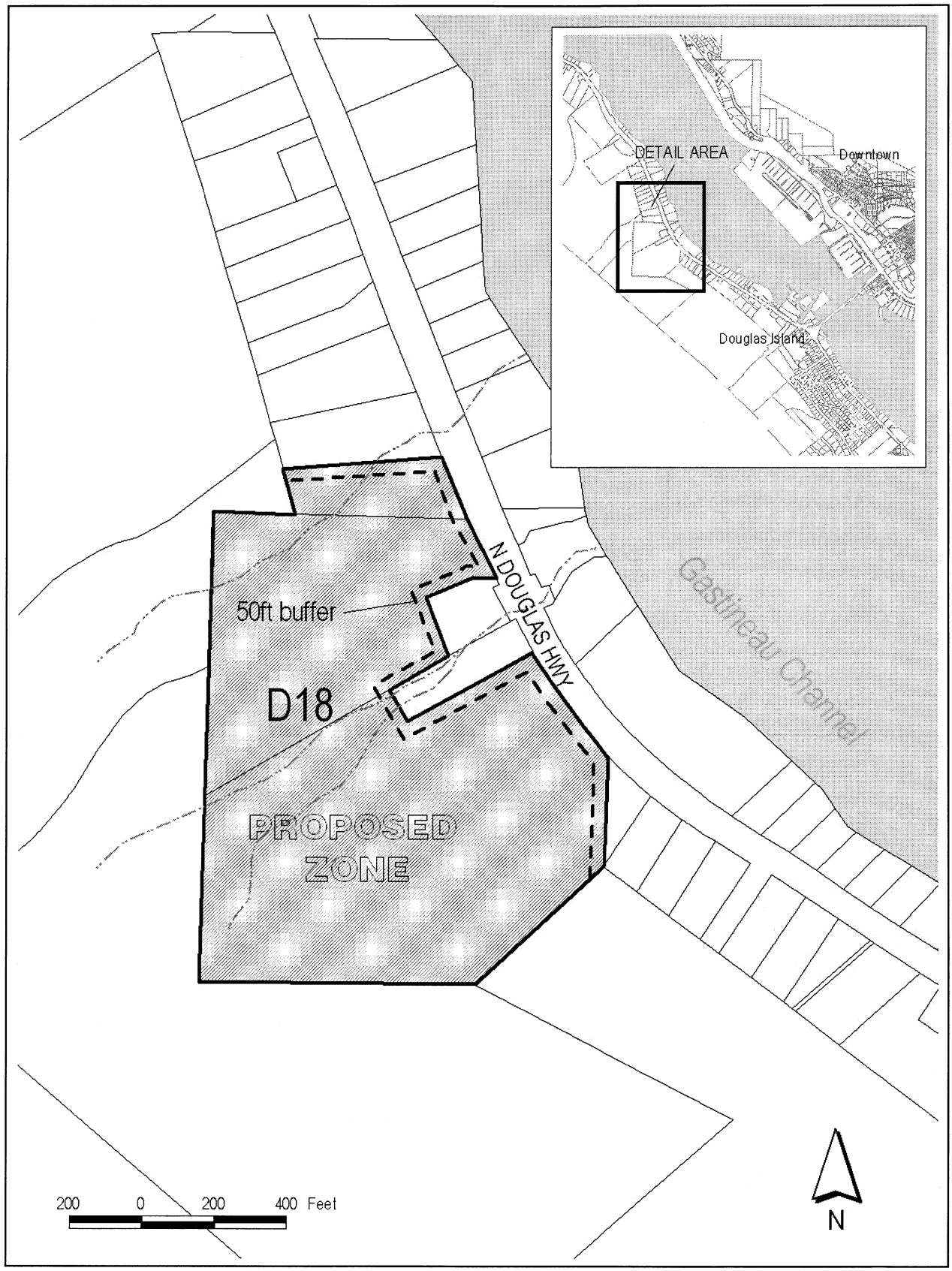
Date notice was printed: February 24, 2010


DETAIL AREA
Downtown
Douglas Island
200ft buffer
D18
PROPOSED
ZONE
N DOUGLAS HWY
Gastineau Channel
200 0 200 400 Feet
N

MAP A


DETAIL AREA
Downtown
Douglas Island
D18
D5
N DOUGLAS HWY
Gastineau Channel
D18
D5
PROPOSED
ZONES
200 0 200 400 Feet
N

MAP B


DETAIL AREA
Downtown
Douglas Island
N DOUGLAS HWY
50ft buffer
D18
PROPOSED ZONE
Gastineau Channel
200 0 200 400 Feet
N

MAP C

Beth McKibben

From: Beth McKibben
Sent: Wednesday, March 03, 2010 8:49 AM
To: 'Kaysa Korpela'
Subject: RE: MAP2008-00004 Catholic Property N Douglas

Kaysa
Thanks for your email - It will be provided to the Planning Commission.

There were 5 sites considered for rezoning by the Planning Commission in December. Two sites were rezoned by the Planning Commission. The third site was sent on to the Assembly with a Planning Commission recommendation to be rezoned to D-10. The Assembly will take this item up on March 8. The remaining two sites were refered to the Subdivision Review Committee, which is a subcommittee of the Planning Commission. Because of scheduling/traveling conflicts the subdivision review committee didn't meet until February. The two remaining sites will be further considered by the Commission on March 9. The public hearing was closed but the Commission may reopen it by a vote. If you would like to provide further written comment I will make sure its made available to the Commission. After the Commission acts their recommendation will be provided to the Assembly, who will make the final decision. There will be an opportunity to provide comments to them as well, but at this time I don't know when they will take it up. Please let me know if you have any more questions.

Beth McKibben
Senior Planner, CDD
City & Borough of Juneau
(907)586-0465 phone
(907)5863365 FAX

From: Kaysa Korpela [mailto:juneau51@hotmail.com]
Sent: Wednesday, March 03, 2010 7:55 AM
To: Beth McKibben
Subject: MAP2008-00004 Catholic Property N Douglas

Beth: I don't quite understand why this is still an ongoing issue. Did the Assemby not make a ruling on the matter back in Dec.? I am against any changes to the status quo in zoning until such time as a second crossing on N. Douglas becomes a reality. Otherwise the multiple family housing will start creeping in on a smaller scale and then, without realizing it, we will have increased the density on N. Douglas. The highway and access cannot handle a population increase on Douglas Island without a second crossing.

I want to know whether or not I should try to contact planning commission members or assembly members at this point. In receiving this yesterday you don't really leave me much time to write to everyone but I do need some contact info for whoevere will be dealing with this issue - either names and phone numbers or addresses of planning commission members or assembly members. Kaysa Korpela 4372, 4370 and 4480 N. Douglas.

Hotmail: Powerful Free email with security by Microsoft. Get it now.

MEMORANDUM

CITY/BOROUGH OF JUNEAU
155 South Seward Street, Juneau, Alaska 99801

DATE: December 3, 2009

TO: Planning Commission

FROM: Beth McKibben, Planner
Community Development Department

FILE NO.: MAP2008-00003
MAP2008-00004

PROPOSAL: A zone change request from D-3 to D-18 for Tract IV of Lot 3 in USS 1361, Kowee Lot 1, USMS 569 Tract 1, USS 2135 Tract II, USS 2135 Tract I, Tract A, and USMS 2305 Lot 15.

GENERAL INFORMATION

Applicants: Square Knot Development, LLC
Murray Walsh

Property Owners:
Site 1 - Channel Construction
Site 2- Steven & Marijo Brantner & Stacy Toner
Site 3 - Site Square Knot Development, LLC
Site 4 - Corp. of Catholic Bishops
Site 5- Tigar Properties
Site 5- Grant Creek Homes

Property Addresses:
Site 1- N. Douglas Highway
Site 2 -N. Douglas Highway
Site 3 - 3915 N Douglas Highway
Site 4- N. Douglas Highway
Site 5 - N. Douglas Highway
Site 5 - 4305 N. Douglas Highway

Legal Descriptions:
Site 1- Kowee Lot 1
Site 2- USMS 569 Tract 1
Site 3- USS 1361 Tract IV, Lot 3
Site 4- USS 2135 Tract II
Site 5- USS 2135 Tract I, Tract A
Site 5- USMS 2305 Lot 15

ATTACHMENT E

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

Parcel Code Nos.:	Site 1- 6-D06-0-100-001-1 Site 2- 6-D06-0-101-003-0 Site 3- 6-D06-0-105-005-2 Site 4- 6-D06-0-109-002-0 Site 5- 6-D06-0-111-002-0 Site 5- 6-D06-0-113-001-0
Site Sizes:	Site 1- 86.4 acres Site 2- 6.48 acres Site 3- 4.23 acres Site 4- 17.62 acres Site 5- 8.78 acres Site 5- 1.62 acres
Zoning:	Site 1- D-3(T)D-18 Site 2- D-3(T)D-18 Site 3- D-3 Site 4- D-3 Site 5- D-3
Utilities:	City water & sewer available
Access:	Douglas Highway
Existing Land Use:	Site 1- vacant Site 2- vacant Site 3- vacant and church Site 4- vacant Site 5- vacant and single family residential
Surrounding Land Use: South	North- single family/duplex, vacant (D-3) South- single family/duplex, multi-family (D-5, D-18, D5(T)D-18) East -single family/duplex, multi-family, bulk fuel (D3, D5, WI) West - vacant (RR)

INTRODUCTION

This staff report addresses two rezoning applications. MAP2008-0003 has been applied for by Square Knot Development. The site they have requested rezoning for is 4.23 acres. Murray Walsh submitted MAP2008-0004 on behalf of property owners of five different lots. Mr. Walsh's application narrative includes the Square Knot lot, which is referred to as Site 3; the application also

includes a map identifying five sites, one of which is the Square Knot parcel, and further discusses those five sites. For sake of clarification, staff has continued to use the five numbered sites to identify areas of potential rezone as follows:

Site 1—Kowee Lot 1; Channel Construction; 86.4 acres

Site 2—USMS 569 Tract 1; Steven & Marijo Brantner & Stacy Toner; 6.48 acres

Site 3—USS 1361 Tract IV, Lot 3; Square Knot Development, 4.23 acres

Site 4—USS 2135 Tract II; Corp. of Catholic Bishops; 17.62 acres

Site 5 (2 lots) — USS 2135 Tract I, Tract A; Tigar Properties; 8.78 acres;
USMS 2305 Lot 15; Grant Creek Homes; 1.62 acres

PROJECT DESCRIPTION

The applicants are requesting a zone change from D-3 to D-18. Square Knot Development (site 3) intends to develop a group of small free-standing homes on individual lots (see application). Sites 1, 2, 4 and 5 have not provided staff with any development plans. The applicant has stated that Site 5 includes two parcels because the property owners plan to consolidate the two lots and develop them as one site.

The following language is provided by the CBJ Land Use Code, CBJ§49.25.210, to describe the zoning designations:

> *(b) The D-3, residential district, is intended to accommodate primarily single-family and duplex residential development at a density of three units per acre. D-3 zoned lands are primarily located outside the urban service boundary where public utilities are not provided. The density reflects the existing pattern of development of properties in the district. There is a limited amount of D-3 zoned lands located within the urban service boundary. These are lands for which a lower density is deemed appropriate or, in the case of transition zones, where the zoning will be changed to a higher density when water and sewer are provided.*

The applicants propose the parcels be zoned D-18. The CBJ Land Use code describes D-18 as follows:

> *(f) The D-18 residential district is intended to accommodate primarily multi-family residential development at a density of 18 dwelling units per acre. This is a high density multi-family zoning district intended to accommodate midrise-type development.*

Sites 1 and 2 are classified as D-3(T)D-18 on the zoning map. This means the Planning Commission can approve a zone change, without Assembly action, from D-3 to D-18 when water and sewer service become available. Water service has been available for some time. Sewer service installation was completed in Fall of 2009. According to CBJ Engineering, the main

sewer line is adequate to serve the potential development should the rezoning be approved; however, Site 2 has been provided two four (4") inch service lines. Four inch lines are designed for single family and duplex development. Larger lines would have to be installed prior to any development greater than single family/duplex. Site 1 has access to an eight (8") inch service line through Site 3, which is adequate for future high density development.

Sites 3, 4 and 5 are shown as D-3 on the zoning map. Site 3 has been provided two six (6") inch sewer lines and one eight (8") inch sewer line. Six (6") inch sewer lines are designed for four units, and eight (8") inch lines, multi-family. Site 4 has been provided one four (4") inch line and one eight (8") inch line. The 8+ acre lot included in site 5 has been provided one eight (8") inch line and the 1.6 acre lot has one four (4") inch line. As stated above, if these lots are to be developed with multi-family housing, the developer will be required to install larger service lines tying into the main line.

The entire area is shown on Map L and M (pgs 180 & 181) of the 2008 Comprehensive Plan. Sites 1, 2 and 3 are shown as Urban Low Density Residential transition Medium Density Residential (ULDR (T) MDR). Page 164 of the 2008 Comprehensive Plan describes MDR as follows:

> *These lands are characterized by urban residential lands for multi-family dwelling units at densities ranging from 5 to 20 units per acre. Any commercial development should be of a scale consistent with a residential neighborhood.*

Site 4 and the larger lot in Site 5 are shown both ULDR or Urban Low Density Development and UDLR(T)MDR. These lots are split with two different zoning designations by the Comprehensive Plan (see Attachment B). The lower portion, adjacent to the highway is ULDR, and the upper portion of the lots ULDR(T)MDR. The 1.6 acre lot in Site 5 is shown as ULDR, with the area immediately to the north as ULDR(T)MDR. The Comprehensive Plan on page 163 describes ULDR as follows:

> *These lands are characterized by urban or suburban residential lands with detached single-family units, duplex, cottage or bungalow housing, zero-lot-line dwelling units and manufactured homes on permanent foundations at densities of one to six units per acre. Any commercial development should be of a size and scale consistent with a single-family neighborhood.*

Attachment A shows the five sites and the current zoning; Attachment B shows the five sites and the zoning designations from the 2008 Comprehensive Plan.

BACKGROUND

These sites were zoned D-3 in 1987 with Ordinance 87-49 which established the major revisions borough-wide. Site 1 is just over 86 acres and does not have frontage on North Douglas Highway; however, there is an access agreement with the owner of Site 4. There is a pioneer road in place providing access to the lower portion of this site. The applicant reports the site has steep slopes and wetlands, which limit the development potential. Kowee Creek may run along the southwest edge of this site. Staff notes it is an anadromous fish stream and will be subject to a 50 foot stream side

setback.

Site 2 is 6.48 acres and has direct access to the North Douglas Highway. It is a moderately sloping site.

Site 3 is 4.23 acres. There are two existing access points on North Douglas Highway and an existing church building. The applicants intend to develop the site with small individual homes in a clustered development, leaving portions of the lot in a natural state.

Site 4 is 17.46 acres in area. It fronts on North Douglas Highway. It is possible that a portion of Grants creek crosses the rear of this lot. Grants Creek is an identified anadromous fish stream and is subject to a 50 foot stream side setback.

Site 5 is made up of two lots in separate ownership. The larger lot is 8.78 acres and the smaller one is 1.6 acres; both lots have frontage on North Douglas Highway. The larger lot is vacant and the smaller lot has a single family dwelling, which according to the Assessor's database was built in 1956. The applicant has indicated that there are plans for lot consolidation and unified development of these two lots. Grants Creek crosses the smaller lot, and may cross a corner of the larger lot. Grants Creek is an identified anadromous fish stream. The 50 foot stream side setback will likely have a significant impact on the development potential of the smaller lot, forcing the development towards the front portion of the lot near the highway (Attachment C).

ANALYSIS

Zone Change Initiation

CBJ §49.75.110. INITIATION. A rezoning may be initiated by the director, the commission or the assembly at any time during the year. A developer or property owner may initiate a request for rezoning in January or July only. Adequate public notice shall be provided by the director to inform the public that a rezoning has been initiated.

1. Were the proposed zone changes initiated by the property owner during the appropriate time frame?

   Yes. Application 2008-00003 was made July 9, 2008 and application 2008-00004 was made July 31, 2008.

2. Did the director provide adequate public notice through newspaper advertising, property owner mailings and requiring a public notice sign to be posted on-site as required by CBJ§49.15.230, Public Notice Requirements?

   Yes. The public was notified through newspaper advertising published on November 27, 2009 and December 7, 2009, as well as mailings to owners of all properties within 500 feet of the

subject properties, and public notice signs posted on each of the five sites more than two weeks prior to the Planning Commission hearing on the rezone requests.

49.70.900-49.70.1097 COASTAL DEVELOPMENT, HABITAT, AND WETLANDS

This portion of Douglas Island has not yet been mapped for wetlands. The applicant reports wetlands on Site 1, and it is likely there are additional wetlands on the other sites. The applicants are advised that prior to development a Wetlands Delineation by the US Army Corps of Engineers will be required.

JUNEAU COASTAL MANAGEMENT PROGRAM

49.70.900 through 49.70.1097 Coastal Development and Habitat

Not applicable. Rezoning does not require a state-coordinated ACMP review.

Restrictions and Procedure

CBJ §49.75.120. RESTRICTIONS ON REZONINGS. Rezoning requests covering less than two acres shall not be considered unless the rezoning constitutes an expansion of an existing zone. Requests which are substantially the same as a rezoning request rejected within the previous twelve months shall not be considered. A rezoning shall not allow uses which violate the land use maps of the comprehensive plan.

The CBJ Land Use Code provides minimum restrictions for zone change requests. This proposal conforms to these restrictions as follows:

1. The request is more than 2 acres. The total acreage of all five sites is 125 acres.
   a) Site 1 is 86.4 acres.
   b) Site 2 is 6.48 acres.
   c) Site 3 is 4.23 acres. Site 4 is 17.62 acres.
   d) Site 5 is made of two lots. One lot is 8.78 acres and the other is 1.6 acres for a total of 10.38 acres.

2. No similar request has been made in the past year.

3. a) Site 1 constitutes the expansion of an existing D-18 zone. Furthermore, it is zoned D3(T)D18. The land use maps of the 2008 Comprehensive Plan show the area to be ULDR(T)MDR. The rezoning will not allow uses that violate the Land Use Maps of the Comprehensive Plan.

   b) Site 2 is contiguous to Site 1, but alone will not expand the existing D-18 zone, however, it is zoned D3(T)D18. The Land Use Maps of the 2008 Comprehensive Plan show the area to be ULDR(T)MDR. The rezoning will not allow uses that violate the Land Use Maps of the Comprehensive Plan.

c) Site 3 is zoned D3. It also contiguous to Site 1, but alone will not expand the existing D-18 zone. The Land Use Maps of the 2008 Comprehensive Plan show the area to be ULDR(T)MDR. The rezoning will not allow uses that violate the Land Use Maps of the Comprehensive Plan.

d) Site 4 is zoned D-3. It also contiguous to Site 1, but alone will not constitute the expansion of the existing D-18 district. The Land Use Maps of the 2008 Comprehensive Plan show the portion of the lot fronting on North Douglas Highway to be ULDR and the rear portion of the lot to be ULDR(T)MDR. If the lines of the Comprehensive plan are strictly followed, a split lot zone would be created.

e) Site 5 is made of two lots. The larger of the two lots is currently zoned D-3. It also contiguous to Site 4, but alone will not constitute the expansion of the existing D-18 district. The Land Use Maps of the 2008 Comprehensive Plan show the portion of the lot fronting on North Douglas Highway to be ULDR and the rear portion of the lot to be ULDR(T)MDR. If the lines of the Comprehensive Plan are strictly followed, a split lot zone would be created. The smaller lot of site 5 is currently zoned D-3. Map L of the 2008 Comprehensive Plan shows this lot to be UDLR. The map also shows the contiguous lots to the north to be ULDR(T)MDR. If the Comprehensive Plan maps are strictly followed, rezoning of this relatively small lot will allow land uses that violate the Comprehensive Plan Land Use Maps.

CBJ §49.75.130. PROCEDURE. A rezoning shall follow the procedure for a major development permit except for the following:

1) The commission decision for approval shall constitute only a recommendation to the assembly.

CBJ§49.70, Article VII addresses Transition Zones. CBJ§49.70.700 states that a transition zone is an overlay zone district for certain lands that are set aside for higher density development after public water and sewer have been provided. It further states that the increase in density will take place at the time public services are provided. Sites 1 and 2 are zoned "transition" on the current zoning maps. As stated previously, public water has been available for some time, and public sewer installation was completed in Fall 2009.

CBJ§49.70.720 establishes the procedure for the zoning upgrade. The code provides a mechanism for the applicant to request an upgrade at the same time a major development proposal is submitted. The code also allows the Planning Commission to initiate a zoning upgrade if public water, sewer or other required improvements exist or will be provided. Although this request was initiated by an applicant, CBJ has been involved from the beginning. CBJ commissioned a TIA to evaluate future traffic impacts of expected increased density based on the current zoning maps and the 2008 Comprehensive Plan maps. Therefore, staff recommends the planning commission procedure be followed for Sites 1 and 2. The Planning Commission can approve a zone change, without Assembly action, from D-3 to D-18 when water and sewer service become available.

The action by the Planning Commission on a zone change request is different from action on a permit request; Action on a zone change request is discretionary. There is no assumption the zone change will be approved. Specifically, the Planning Commission action is to make a recommendation to the Assembly to change the zoning maps or deny the request. This is the procedure that should be followed for Sites 3, 4 and 5.

Land Use

The subject parcels are located on the uphill side of North Douglas Highway. Site 3 currently houses a church. The 1.6 acre lot in Site 5 has a single family dwelling, and the remaining sites are vacant. Sites 2, 3, 4 and 5 all have direct access to the highway; Site 1 does not front the highway, however, there is an existing access easement agreement with the property owner of Site 4. There is also an existing access road, within the easement, that provides access from the North Douglas Highway to the lower portion of Site 1. To the northeast is a mix of single family and duplex development. The area to the west and southwest is vacant. Development to the south is primarily single family residential and to the north is more single family and duplex development as well as an automotive dealership.

Density

Current zoning for these lots will allow for 2 units per acre, with a maximum of 2 dwellings per lot, with a theoretical maximum of 63 dwelling units. To achieve the maximum density in D-3, the lots would have to be subdivided, and roads constructed. If left unsubdivided, the maximum density would be 12 units. The requested D-18 zone would allow for up to 18 dwellings per acre, for a total potential of 2,250 dwelling units. Given the steep slopes and presence of some wetlands, a 35-foot building height limit, plus the need to develop internal roads and other infrastructure, it is very unlikely the five sites would ever reach the fullest potential density. The Traffic Impact Analysis commissioned by CBJ to study the impacts of future increased development along the North Douglas Highway, (Attachment D) estimates a realistic maximum potential of 1,678 dwelling units for these five sites if they were rezoned to D-18.

The five sites all are within one mile of the Petro Marine bulk fuel facility (Attachment E). During the permitting process for the bulk fuel facility, concerns from residents of the area were raised regarding danger from a fire or explosion at the Petro Marine Facility. To address this concern the following condition was imposed by USE-CU90-30 and continued with USE2004-00035:

> 16. The Conditional Use Permit (CUP) is for a term of ten years commencing with the issue date of the tank farm's occupancy permit or passage of final engineering inspection. The CUP has an automatic right of renewal for an additional ten years if at the end of the first ten year period, the Planning Commission determines that there are no changes in circumstances that substantially increase the fire safety risk, or other concerns under the jurisdiction of the commission, to the property or surrounding area. The CUP holder shall provide such information as the commission may require to assist it in its determination. (Approved July 27, 2004) Thereafter, extensions of the CUP shall be for

> increments of no more than five years and shall require commission review before the granting or denying of any additional term. CBJ staff shall provide the commission with a cost/benefit analysis of the tank farm owner/operator meeting current code requirements and regulations on new tank farm development.

Future increased density in the area may have an impact on future extensions of Petro Marine's Conditional Use permit. Staff notes, that some safety concerns may be addressed with a second crossing of the channel by providing an alternate evacuation route. The Fire Marshall has said he does not foresee any issues with the proposed rezone and the proximity of the bulk fuel facility (Attachment F).

Comprehensive Plan

As mentioned above, the entire area is shown on Map L and M (pgs 180 & 181) of the 2008 Comprehensive Plan. Sites 1, 2 and 3 are shown as Urban Low Density Residential transition Medium Density Residential (ULDR(T)MDR). Page 164 of the 2008 Comprehensive Plan describes MDR as follows:

> *These lands are characterized by urban residential lands for multi-family dwelling units at densities ranging from 5 to 20 units per acre. Any commercial development should be of a scale consistent with a residential neighborhood.*

Site 4 and the larger lot of Site 5 are shown as ULDR or Urban Low Density Development along the highway and ULDR(T)MDR towards the back of the lots (Attachment B). The smaller lot in Site 5 is shown only as ULDR. The 2008 Comprehensive Plan description of ULDR is addressed above. The lots immediately adjacent to the 1.6 acre lot are also shown as ULDR(T)MDR. Staff recommends that if Sites 4 and 5 are up-zoned to D-10, D-15, or D-18 a 200 foot buffer be established from the highway. This would be consistent with the intent of the Comprehensive Plan, and protect the existing low density development in the surrounding area. Furthermore, staff recommends that prior to rezoning Site 5 from D-3 the two lots will consolidated into one and will be developed as a single unified project.

In Chapter 11, Comprehensive Plan Land Use Maps (pg 159) the following guidance is made in regard to rezoning:

> *In considering re-zoning request, the Planning Commission and Assembly should aim to promote the highest and best use of the land under consideration: in some cases, the highest and best use may be increased density or more intensive use of the land; in other cases, the highest and best use may be preservation in an undisturbed state for purposes of habitat preservation, flood control, or providing a buffer between development and areas subject to natural hazards.*

Clearly the land use maps of the Comprehensive Plan are not "cast in concrete" and there is some flexibility in review. Page 1, paragraph 5 of the 2008 Comprehensive Plan further supports the flexibility of the plan, but emphasizes that it should be used when considering community growth, along with other current information.

The Comprehensive Plan offers general guidance for residential development: Policy 10.1 (page 142) states, "It is the policy of the CBJ to facilitate availability of sufficient land with adequate public facilities and services for a range of housing types and densities to enable the public and private sectors to provide affordable housing opportunities for all CBJ residents."

Standard Operating Procedure 10.1.SOP2 (page 143) states, "Designate sufficient land on the Comprehensive Land Use Maps and zoning maps to provide for a full range of housing types and densities desired by CBJ households. Provide choices in residential neighborhood character such that residents can choose to live in urban, suburban and rural residential settings and neighborhoods."

Policy 10.3 (page 144) states, "It is the policy of the CBJ to facilitate residential developments of various types and densities that are appropriately located in relation to site considerations, surrounding lands uses, and capacity of public facilities and transportation systems."

The proposed rezoning is within Subarea 8 of the 2008 Comprehensive Plan. The Plan (page 125) states that when recognizing the growth potential of this area, the limitation of the North Douglas Highway and the Juneau-Douglas Bridge must also be considered. On page 218, Guideline and Considerations No. 4 states in part that when city water and sewer are provided, more efficient use of the land should be encouraged. It also states that residential densities should be increased when, and where roads, terrain, and other public services would provide carrying capacity for the additional residential population.

Traffic and Access

As mentioned above, North Douglas Highway and the Juneau-Douglas Bridge create limitations for future development. This is why CBJ commissioned a Traffic Impact Analysis (TIA) prior to evaluating the rezoning requests. The TIA Study Area (figure 1) evaluated potential future traffic impacts along the North Douglas Highway from the roundabout to just past Nelson Creek. The TIA further broke the study area up into three sections. These rezoning requests are all within study area 1 (Figure 2). The study concludes that traffic generated by future development along North Douglas Highway will negatively impact the level of service (LOS) at the Douglas roundabout and at the intersection of Egan Drive and Tenth Street. On pages 3-22 the study estimated how much additional traffic could be added before LOS F is reached. The study concludes that at Tenth and Egan, the limiting time is the PM peak hour. The TIA states the intersection can accommodate 517 additional vehicles before reaching LOS F. For the Douglas roundabout the limiting time is the AM peak hour, and 334 additional vehicles can be accommodated before LOS F is reached. Staff notes that Title 49.40.310 states the minimum LOS on the project open date of the development, or full build out, is LOS D.

The TIA also notes that access road schemes for future development in the study area have not been established (pg 3-27). Future driveways and access roads will be subject to the AkDOT permitting process. However, the TIA recommends that access points for new developments should be

aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads. Staff recommends this be a condition of approval.

Further, staff notes that AkDOT may require additional traffic impact analyses when driveway permits are applied for. In response to a request for comment on these requested rezones, AkDOT states they will reserve comment until specific development proposals, accompanied by driveway permit requests, are submitted (Attachment G).

CBJ Title 49 may also require future applications for development to submit traffic impact analyses. However, this places the burden of mitigation on the developer whose proposal triggers the number of trips that requires mitigation.

Because both the current Zoning Maps and the Comprehensive Plan identify the majority of these five sites for increased density, staff recommends that in the event the rezone requests are approved, AkDOT is strongly urged to implement improvements at Tenth and Egan, as recommended in a December 2002 AkDOT report. Further, AkDOT should be strongly urged to facilitate the development of a North Douglas crossing. Both of these recommendations are identified in the 2008 Comprehensive Plan (pg 216). The CBJ Assembly, administration, property owners of areas to be rezoned, as well as residents of Douglas Island should all participate in encouraging AkDOT to take action.

Zone Change Options and Alternatives

The applicants have requested zone changes from D-3 to D-18. Other possible alternatives would be zone changes to D-5, D-10SF, D-10 or D-15. All of theses zones would increase the development potential of the lots beyond their current zoning, but with less density than the D-18 requested. Page 3-19 of the TIA shows the estimated number of vehicle trips that would be generated by the D-10 and D-15 zoning options. Two development scenarios for each zoning option are created based on development type. Only the lowest potential development at D-10 does not create LOS F at the Douglas roundabout or Tenth and Egan. If either D-10 or D-15 alternative zoning designations are used, staff's recommendation for requesting action from AkDOT on Tenth and Egan of the North Douglas crossing are still appropriate.

D-5 is different from D-3 in that common wall dwellings are permitted, and the minimum lot size for a single family dwelling drops from 12,000 square feet to 7,000 square feet. However, D-5 allows only one single family dwelling per lot, and D-3 allows for two, provided the lot is more than double the minimum lot size. In order for these sites to increase density with D-5 zoning the lots would have to be subdivided, and public roads and infrastructure be provided. With 125 acres, a maximum of 778 dwelling units could be allowed with D-5 zoning. This number is not realistic as is does not account for land that is too steep, covered with wetlands, or encumbered by stream side setbacks, streets and other infrastructure.

The D-10SF district (CBJ§49.25.210(d)) is intended to accommodate primarily single family residential development at a density of ten units per acre. Like the D-5 zoning district, 2 dwellings per lot are not permitted. At 10 dwellings per acre, a maximum of 1,250 dwelling units could theoretically be built. Again this is not a realistic number, as it does not take into account areas that are used for infrastructure or are not developable because of steep slopes, wetlands or stream side setbacks.

The D-10 and D-15 districts are similar to the requested D-18 zone. These districts (CBJ§49.25.210(e)) are intended to accommodate primarily multi-family development at 10 and 15 units per acre. Hypothetically this would allow a maximum 1,250 units in D-10 and 1,875 units in D-15. Again this is not a realistic number, as it does not take into account areas that are used for infrastructure or are not developable because of steep slopes, wetlands or stream side setbacks.

Public Comments

At the time of the writing of this report staff received three written comments (Attachments H , I, & J). One is from the property owners of land immediately adjacent to Sites 4 and 5 and their comments specifically address the larger lot of Site 5; they are opposed to the rezoning of this lot. Staff notes that the recommended condition of a 200 foot buffer would address their concerns to some extent. The second comments addressed the rezoning in general; they ask for a traffic study, expressed concern with the potential future traffic, concern with potential for erosion created by future development, and requested that D-18 zoning not be considered for the entire 125 acres seeking that designation. The third letter does not support the rezone and also express concerns with traffic.

SUMMARY

The requested rezone from D-3 to D-18, with conditions, is consistent with the Comprehensive Plan and the zoning maps. Further, if the five sites are considered as one package they create a boundary adjustment of an adjacent zoning district.

FINDINGS

After review of the application materials, the CBJ Land Use Code and the CBJ Comprehensive Plan the Director makes the following findings:

1. The requests meet the submittal requirements and the rezoning initiation, zone change restrictions and procedural requirements of the CBJ Land Use Code.

2. D-18 zoning, with buffering and lot consolidation conditions as recommended by staff, does not violate the Land Use maps of the Comprehensive Plan and is consistent with Maps L and M.

3. The rezoning is larger than 2 acres.

STAFF RECOMMENDATION

Staff recommends that the Planning Commission adopt the Director's analysis and findings take the following actions:

MAP2008-0003:

Site 3 - Recommend the Assembly approve the rezone the subject parcel from D-3 to D-18 with the following condition:

1. Access points should be aggregated to the extent possible, and access roads should be spaced at least one-quarter mile from adjacent access roads.

MAP2008-0004:

Site 1 - Approve the zone upgrade from D-3 to D-18 as identified on the Zoning Maps with the following condition:

1. Access for new developments should be limited to the existing access easement.

Site 2 - Approve the zone upgrade from D-3 to D-18 as identified on the Zoning Maps with the following condition:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one-quarter mile from adjacent access roads.

Site 4 - Recommend the Assembly approve the rezone the subject parcel from D-3 to D-18 with the following conditions:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads
2. A 200 foot no build buffer be established from the highway.

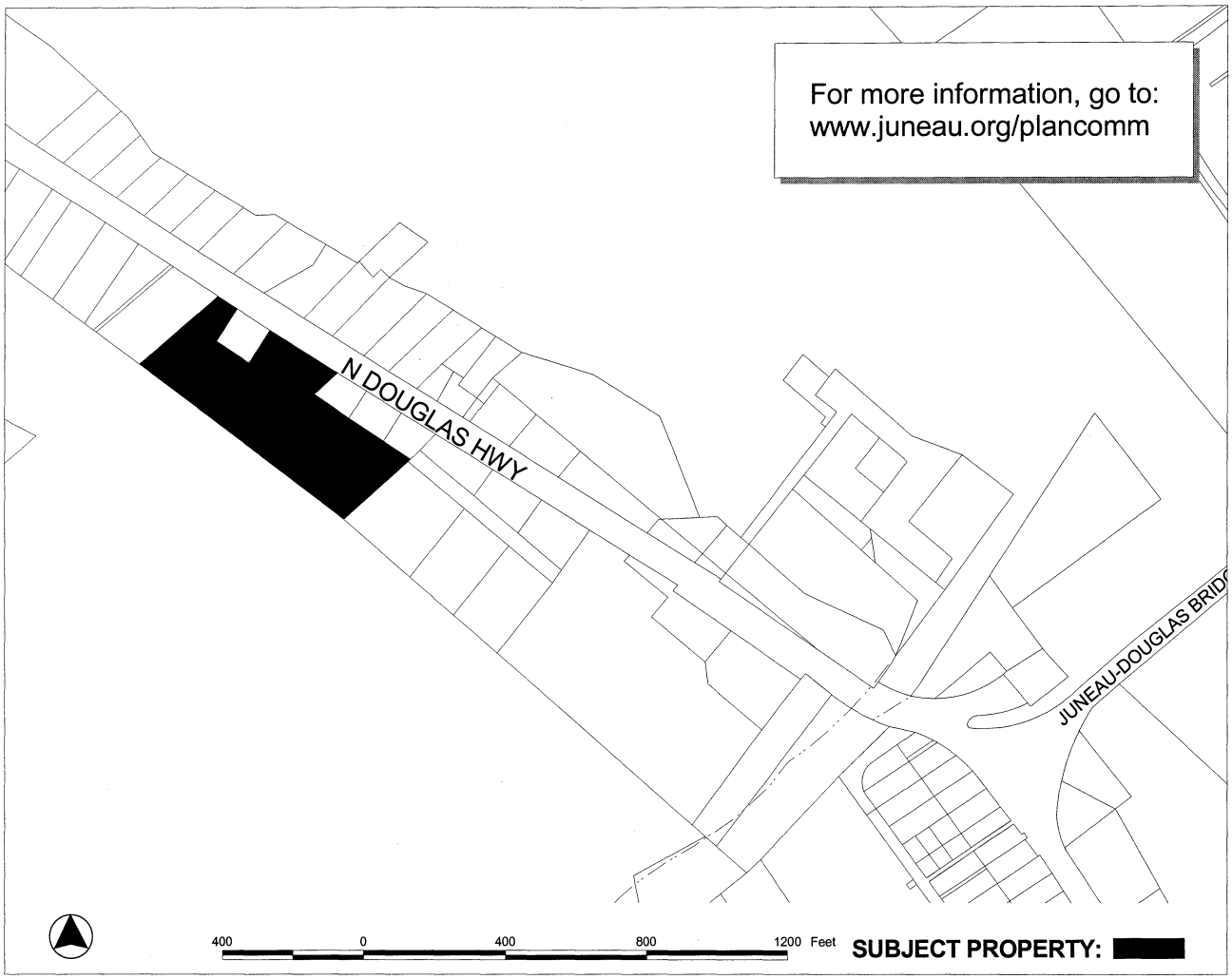
Site 5 - Recommend the Assembly approve the rezone the subject parcels from D-3 to D-18 with the following conditions:

1. Access points for new developments should be aggregated to the extent possible, and access roads should be spaced at least one quarter mile from adjacent access roads
2. A 200 foot no build buffer be established from the highway.
3. Furthermore, staff recommends that Site 5 only be rezoned from D-3 with the condition that prior to rezoning the two lots will consolidated into one.

ATTACHMENTS:

A - Map of current zoning and 5 sites
B - Map of 2008 Comprehensive Plan Land Use designations and 5 sites
C - Aerial photo showing Grants Creek and 50-foot stream side buffer on 1.6 acre lot of site 5
D - USKH Traffic Impact Analysis
E - Map showing bulk fuel facility
F - E-mail from Dan Jager, CBJ Fire Marshal
G - E-mail from David Epstein, AkDOT
H - Two e-mails from Heather and Kirk Hardcastle
I - E-mail from Mark Stopha
J - E-mail from Craig Mapes

NOTICE OF PUBLIC HEARING



PROPOSAL: A zone change request for Tract IV,USS 1361 from D-3 to D-18

FILE NO:	MAP2008-00003	**APPLICANT:**	SQUARE KNOT DEVELOPMENT LLC
TO:	**Adjacent Property Owners**	**PROPERTY OWNER:**	SQUARE KNOT DEVELOPMENT LLC
HEARING DATE:	December 8, 2009	**PROPERTY ADDRESS:**	3915 N DOUGLAS HWY
HEARING TIME:	7:00 P.M.	**PARCEL CODE NUMBER:**	6-D06-0-105-005-2
PLACE:	**ASSEMBLY CHAMBERS** Municipal Bldg. 155 South Seward St., Juneau, Alaska 99801	**SITE SIZE:**	4.23 acres
		ZONING:	D3
		ACCESS:	DOUGLAS HWY

PROPERTY OWNERS PLEASE NOTE:

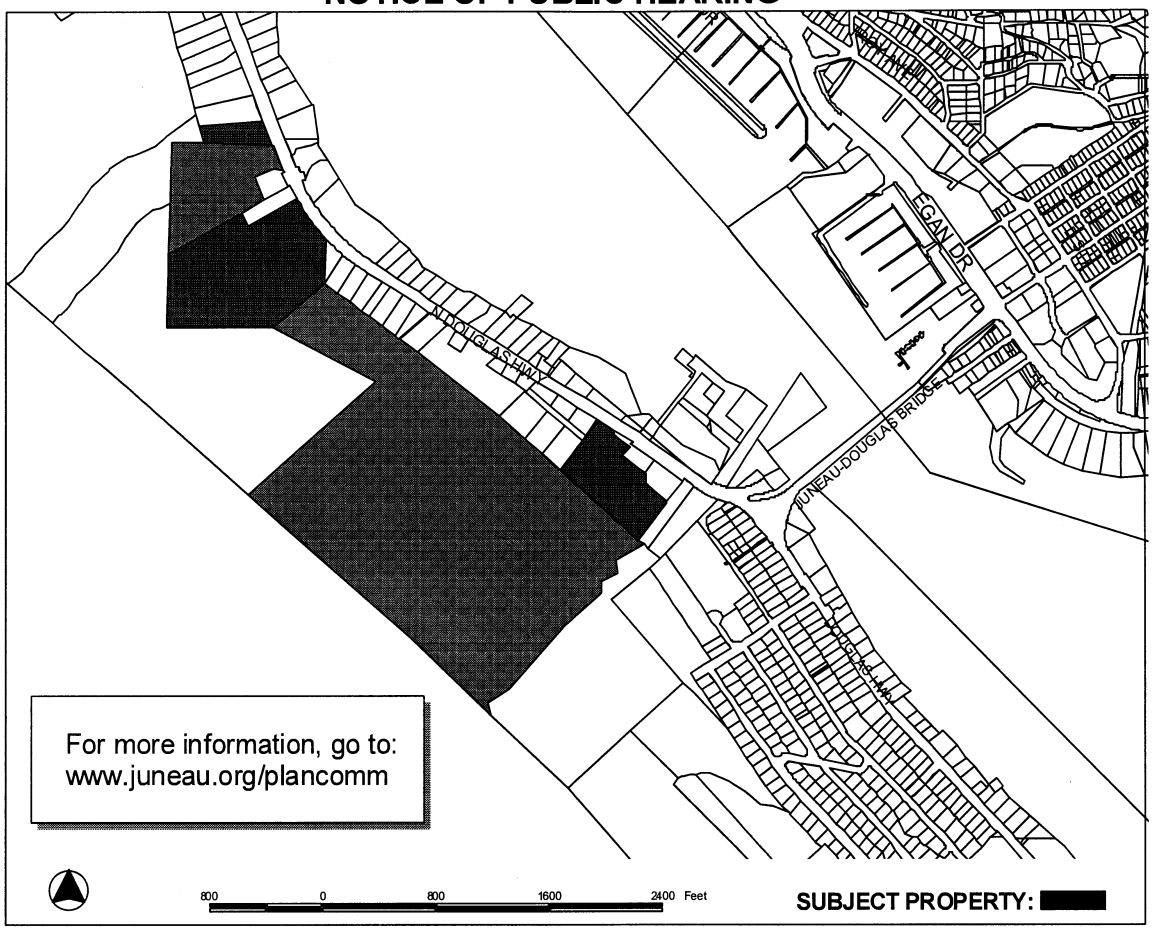
You are invited to attend this Public Hearing and present oral testimony. The Planning Commission will also consider written testimony. You are encouraged to submit written material to the Community Development Department no later than 8:30 A.M. on the Wednesday preceding the Public Hearing. Materials received by this deadline are included in the information packet given to the Planning Commission a few days before the Public Hearing. Written material received after the deadline will be provided to the Planning Commission at the Public Hearing.

If you have questions, please contact Beth McKibben at 907-586-0465 or e-mail beth_mckibben@ci.juneau.ak.us

Planning Commission Agendas, Staff Reports and Meeting Results can be viewed at www.juneau.org/plancomm.

Date notice was printed: November 23, 2009

NOTICE OF PUBLIC HEARING



PROPOSAL: A zone change request for parcels: KOWEE Lot 1, USMS 569 TR I, USS 2135 TR II, USS 2135 TR I TR A, and USMS 2305 LT 15 from D-3 to D-18.

FILE NO:	MAP2008-00004	**APPLICANT:**	MURRAY WALSH
TO:	**Adjacent Property Owners**	**PROPERTY OWNER:**	CHANNEL CONSTR., BRANTNER, CORP OF CATHOLIC BISHOPS, TIGAR PROP., GRANT CREEK HOMES
HEARING DATE:	December 8, 2009		
HEARING TIME:	7:00 P.M.	**PROPERTY ADDRESS:**	N DOUGLAS HWY
PLACE:	**ASSEMBLY CHAMBERS** Municipal Bldg. 155 South Seward St., Juneau, Alaska 99801	**PARCEL CODE NUMBER:**	6-D06-0-100-001-1; 101-003-0; 109-002-0; 111-002-0; 113-001-0
		SITE SIZE:	120.94 acres
		ZONING:	D3
		ACCESS:	DOUGLAS HWY

PROPERTY OWNERS PLEASE NOTE:

You are invited to attend this Public Hearing and present oral testimony. The Planning Commission will also consider written testimony. You are encouraged to submit written material to the Community Development Department no later than 8:30 A.M. on the Wednesday preceding the Public Hearing. Materials received by this deadline are included in the information packet given to the Planning Commission a few days before the Public Hearing. Written material received after the deadline will be provided to the Planning Commission at the Public Hearing.

If you have questions, please contact Beth McKibben at (907)-586-0465 or e-mail at: beth_mckibben@ci.juneau.ak.us

Planning Commission Agendas, Staff Reports and Meeting Results can be viewed at www.juneau.org/plancomm.

Date notice was printed: November 24, 2009

DEVELOPMENT PERMIT APPLICATION

(APPLICANT - PLEASE FILL IN THE PROJECT/APPLICANT INFORMATION)

Project Number: PRJ08-111 | **CITY and BOROUGH of JUNEAU** | Date Received: 7/9/08

Project Name (City Staff to assign name): USS 1361 TRI LT3 REZONE

PROJECT / APPLICANT INFORMATION

Project Description: PUD – Rezone from D-3 to D-18

PROPERTY LOCATION

Street Address	City / Zip	
3915 N DOUGLAS HWY	JUNEAU 99801	
Subdivision (if known)	**Survey (if known)**	**Block / Tract (if known)** / **Lot (if known)**
—	USS 1361	Tract — / Lot 3

Assessor's Parcel Number (if known): 6D0601050052

LANDOWNER /LESSEE

Property Owner's Name	Contact Person	Work Phone No.
☑ Contact by E-Mail: denton@gci.net SQUARE KNOT DEVELOPMENT LLC	BOAD DENTON	—
Mailing Addresss	**Home Phone No.**	**FAX No.**
15915 GLACIER Hwy JUNEAU AK 99801	789-7582	—

LANDOWNER/LESSEE CONSENT

(Required for Planning permits not needed on Building/Engineer permits)

I am (we are) the owner(s) or Lessee 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 officials and employees of the City and Borough of Juneau to inspect my property as needed for purposes of this application.

X Donna Denton for Square Knot LLC — Landowner/Lessee Signature — Date: June 14 2008

X _____ — Landowner/Lessee Signature — Date

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours and will attempt to contact the landowner in addition to the formal consent given above. Further, members of the Planning Commission and/or the Design Review Board may visit the property and may do so during the weekend before the scheduled public hearing date.

INITIAL ALL THAT MAY APPLY

APPLICATION TYPE	OWNER'S INITIALS
ALLOWABLE USE	
CONDITIONAL USE	
VARIANCE	
DESIGN REVIEW	
SUBDIVISION	
OTHER Rezone ~~PUD~~	DDS

APPLICANT

(If same as OWNER, write "SAME" and sign and date at X below)

Applicant's Name	Contact Person	Work Phone No.
☐ Contact by E-Mail: Same		
Mailing Addresss	**Home Phone No.**	**FAX No.**

X Donna Denton for SKD LLC — Applicant's Signature

X June 14 2008 — Date of Application

STAFF APPROVALS

(OFFICE USE ONLY BELOW THIS LINE)

CK	PERMIT TYPE	SIGN	DATE RECEIVED	APPLICATION NO.
	ALLOWABLE USE APPROVAL			
	CONDITIONAL USE APPROVAL			
	VARIANCE			
	DESIGN REVIEW APPROVAL — MINOR / MAJOR			
	SUBDIVISION — MINOR / MAJOR / PUD			
	STREET VACATION			
	SIGN APPROVAL — LOCATED IN HISTORIC DISTRICT? ☐ YES ☐ NO			
	BUILDING PERMIT			

CK	PERMIT TYPE	DATE RECEIVED	APPLICATION NO.
	WATER PERMIT		
	SEWER PERMIT		
	GRADING PERMIT		
	DRIVEWAY PERMIT		
	RIGHT-OF-WAY PERMIT		
	PUB. FAC. TRANSMISS. & EXCAV. PERMIT		
	OTHER - (Describe) Rezone	7/9/08	MAP08-003
	Permit Intake Initials	KRC	

Zone: D-3 | Total Lot Area: 184,408 sf | Required Setbacks: Front ___ Back ___ Side ___ Other ___

COMMENTS:

[I:\FORMS\CDDFORMS\PERMFORM.XLS REV. -2/16/99]

NOTE: DEVELOPMENT PERMIT APPLICATION FORM MUST ACCOMPANY ALL OTHER COMMUNITY DEVELOPMENT DEPARTMENT APPLICATIONS

denton@gci.net

Square Knot Development LLC

ZONE CHANGE APPLICATION

(APPLICANT PLEASE FILL IN SHADED AREAS AS A MINIMUM)

Project Number	Project Name	Case Number	Hearing Date	Date Received
PRJ2008-[redacted]	USS 1361 TR IV LT 3 REZONE	MAP08-003		7/9/08

NEW ZONE REQUESTED: D-18

DESCRIBE LIMITS OF AREA TO BE REZONED:

USS 1361 LT 3

3915 NORTH DOUGLAS HIGHWAY JUNEAU

TYPE OF ZONE CHANGE: [X] Regular [ ] Transition

PURPOSE OF THE REQUESTED ZONE CHANGE:

PUD (See Plans + Note)

TYPE AND DENSITY OF PROPOSED DEVELOPMENT:

SINGLE FAMILY FREESTANDING HOUSING ON SMALL LOTS

DESCRIBE IMPACTS TO ROADS AND ANY ADDITIONAL ROADS PROPOSED:

PROPOSED DRIVEWAY ON CBJ ROW AT NORTH END OF DEVELOPMENT

UTILITIES AVAILABLE WATER [X] Public [ ] On Site SEWER [X] Public [ ] On Site

DIMENSIONS OF SITE: Width 660 ft. Depth 320 ft. Square Feet 196,000

REVIEW APPROVALS

	Initials	Date
Buildings		
Engineering		
Planning		

ZONE CHANGE FEES

	Fees	Check No.	Receipt	Date
Application Fees	$ 500	6814	26460	7/9/08
Adjustment	$			
Public Notice Sign	$ 50			
Public Notice Sign Deposit	$ 100			
Total Fee	$ 650			

devappzc.xls 1/30/97

NOTE: MUST BE ACCOMPANIED BY DEVELOPMENT PERMIT APPLICATION *FORM*

DEVELOPMENT PERMIT APPLICATION

*(APPLICANT - PLEASE FILL IN THE **PROJECT/APPLICANT INFORMATION**)*

Project Number	CITY and BOROUGH of JUNEAU	Date Received:
PRJ 08 131		7/30/08

Project Name (City Staff to assign name): North Douglas Rezone

PROJECT / APPLICANT INFORMATION

Project Description

Rezone subject lot to D-18

PROPERTY LOCATION

Street Address		City / Zip
N Douglas Highway		Juneau AK 99801
Subdivision (if known)	**Survey (if known)**	**Block / Tract (if known)** / **Lot (if known)**
	USS 2135	Tract II / —

Assessor's Parcel Number (if known): 10-D06-0-109-002-0

LANDOWNER /LESSEE

Property Owner's Name ☐ Contact by E-Mail:	Contact Person	Work Phone No.
Corporation of Catholic Bishops	Jim Donaghey	586 2227
Mailing Addresss	**Home Phone No.**	**FAX No.**
415 Sixth Street Ste 300 Juneau 99801		

LANDOWNER/LESSEE CONSENT (Required for Planning permits not needed on Building/Engineer permits)

I am (we are) the owner(s) or Lessee 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 officials and employees of the City and Borough of Juneau to inspect my property as needed for purposes of this application.

X JM Donaghey — Landowner/Lessee Signature — Date: 02-26-10

X — Landowner/Lessee Signature — Date

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours and will attempt to contact the landowner in addition to the formal consent given above. Further, members of the Planning Commission and/or the Design Review Board may visit the property and may do so during the weekend before the scheduled public hearing date.

INITIAL ALL THAT MAY APPLY

APPLICATION TYPE	OWNER'S INITIALS
ALLOWABLE USE	
CONDITIONAL USE	
VARIANCE	
DESIGN REVIEW	
SUBDIVISION	
OTHER Rezone	

APPLICANT (If same as OWNER, write "SAME" and sign and date at X below)

Applicant's Name ☐ Contact by E-Mail:	Contact Person	Work Phone No.
Corp Catholic Bishops		
Mailing Addresss	**Home Phone No.**	**FAX No.**

X JM Donaghey — Applicant's Signature — X 02-26-10 — Date of Application

(OFFICE USE ONLY BELOW THIS LINE)

STAFF APPROVALS

CK	PERMIT TYPE	SIGN	DATE RECEIVED	APPLICATION NO.	CK	PERMIT TYPE	DATE RECEIVED	APPLICATION NO.
	ALLOWABLE USE APPROVAL					WATER PERMIT		
	CONDITIONAL USE APPROVAL					SEWER PERMIT		
	VARIANCE					GRADING PERMIT		
	DESIGN REVIEW APPROVAL — MINOR / MAJOR					DRIVEWAY PERMIT		
	SUBDIVISION — MINOR / MAJOR / PUD					RIGHT-OF-WAY PERMIT		
	STREET VACATION					PUB. FAC. TRANSMISS. & EXCAV. PERMIT		
	SIGN APPROVAL — LOCATED IN HISTORIC DISTRICT? ☐ YES ☐ NO					OTHER - (Describe)		
	BUILDING PERMIT					Permit Intake Initials		

Zone	Total Lot Area	Required Setbacks
		Front ____ Back ____ Side ____ Other ____

COMMENTS:

[I:/FORMS/CDDFORMS/PERMFORM.XLS REV. -2/18/99]

NOTE: **DEVELOPMENT PERMIT APPLICATION** *FORM MUST ACCOMPANY ALL OTHER COMMUNITY DEVELOPMENT DEPARTMENT APPLICATIONS*

SQUARE KNOT
DEVELOPMENT LLC
789-7582

Purpose For the Requested Zone Change

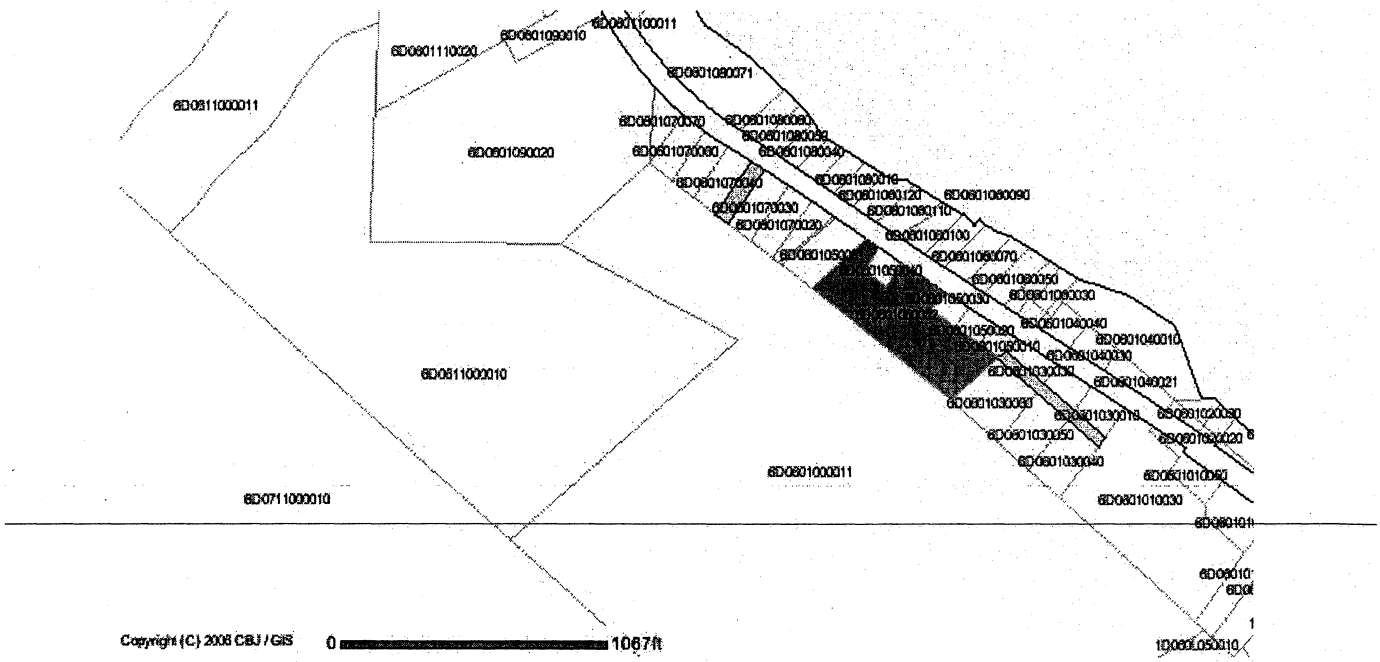
We wish to get permission to establish a residential planned unit development on the noted property and we will submit a plan for approval if the requested zoning is approved.

The public advantage for the change is the obvious one, that housing near the downtown area, where so many are employed, will reduce traffic with its many public and private costs. Juneau, prevented from expanding by water on one hand and mountains on the other, should make the best use of the buildable land near the center.

We see a need for smaller lots with smaller houses which are more efficient to heat and less expensive to commute to but still retain the appeal of individual detached houses. We see a demand for high quality and pleasing aesthetics. We see a willingness to pay for these qualities but on a somewhat smaller scale than has become the norm.

We see the proposed plan as conferring these advantages.

RECEIVED
JUL 09 2008
PERMIT CENTER/CDD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Copyright (C) 2008 CBJ / GIS
0
1067ft

ISLAND COTTAGES

A residential development designed to advance the community-wide goal of making moderately-priced housing available to a wide variety of buyers, including young couples, single parents, empty nesters and young professionals.

PROPOSED FEATURES:

- Proximity to employment centers and commerce in downtown Juneau
- Accessible and readily developed
- Compact units in clusters create small private communities and maximize energy efficiency
- Proposed setbacks will create greenbelts between cottages and maintain uniform low-profile development
- Parking screened from neighboring properties and highway

APPROPRIATE ZONING DESIGNATION:

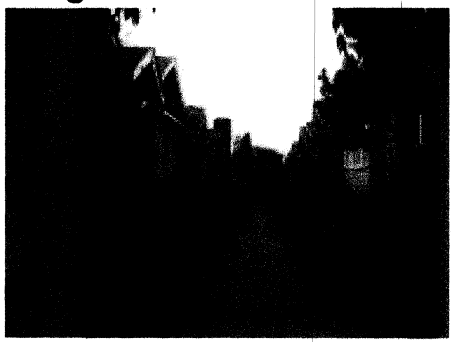
In the interest of creating compact clusters of cottage-style housing and forwarding the community's goal of creating more affordable housing, this parcel would most appropriately be rezoned to **D-18**.

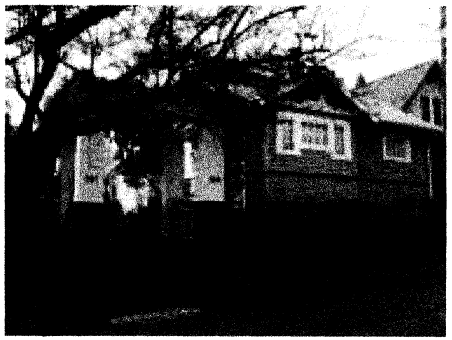
Square Knot Development LLC

Denton - 789-7582

Seattle has several fine examples of this housing type, dating back to the early 20th Century. Sometimes referred to as "Bungalow Courts", the major components of these developments are dwelling units organized around a semi-enclosed space. Many bungalow courts in Seattle include attached dwelling units, such as several that remain in the Eastlake neighborhood, and Fred Anhalt's Tudor style courts found in Capitol Hill and Queen Anne. The following two examples both feature detached crafstman bungalows.

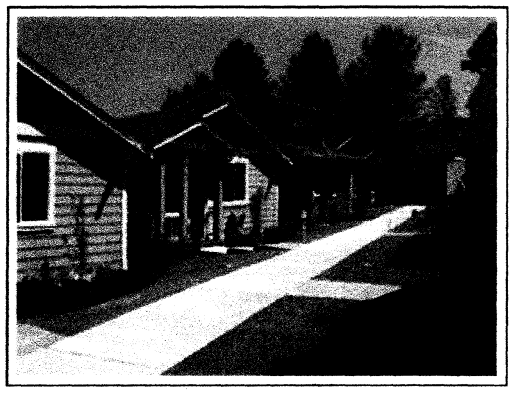
Bungalow Court, 16th Avenue





Square Knot Development LLC

Denton 789-7582



Cottage homes are not a new concept; they have historically served as working-class housing throughout Europe and the U.S., and are now being updated and reintroduced as an affordable alternative for a new generation of American families. Cottage developments are built in clusters designed to trade quantity of space for quality of life, while actively promoting a sense of community. This article describes cottage design features and provides examples of communities that have successfully implemented cottage zoning.

Photo: Courtesy Ross Chapin Architects
The Greenwood Avenue Cottages are painted in cheerful, but not overwhelming, colors.

Square Foot Development LLC

Denton
789-7582

Graciously Designed Refuge

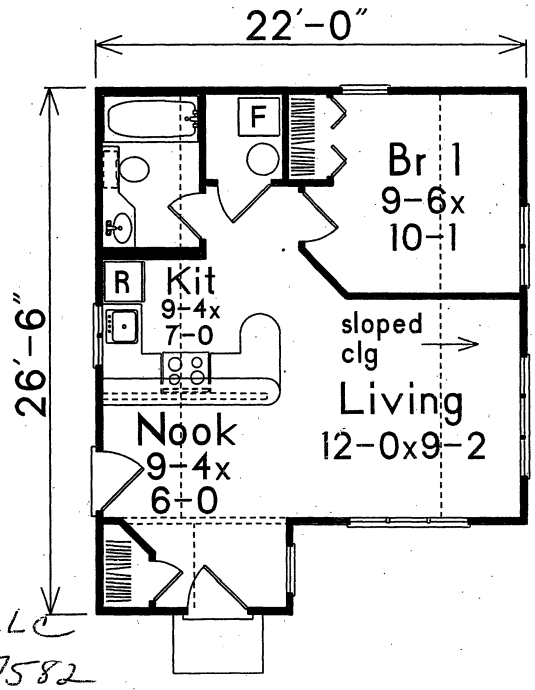
Plan #713-008D-0154

527 total square feet of living area

Price Code AAA

Special features

- Cleverly arranged home has it all
- Foyer spills into the dining nook with access to side views
- An excellent kitchen offers a long breakfast bar and borders the living room with free-standing fireplace
- A cozy bedroom has a full bath just across the hall
- 1 bedroom, 1 bath
- Crawl space foundation



This is an example of the type of cottage that we plan.
Square Knot Development LLC
Denton 789-7582

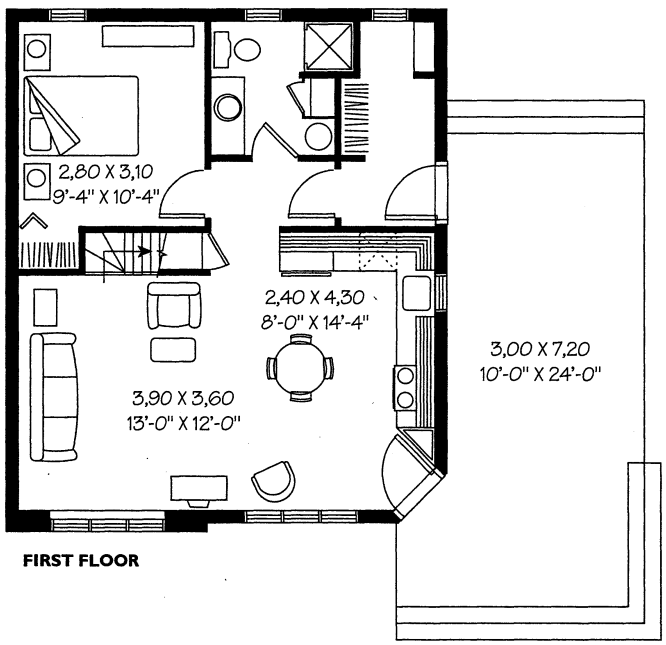
plan # 65003

1-800-235-5700 or www.familyhomeplans.com

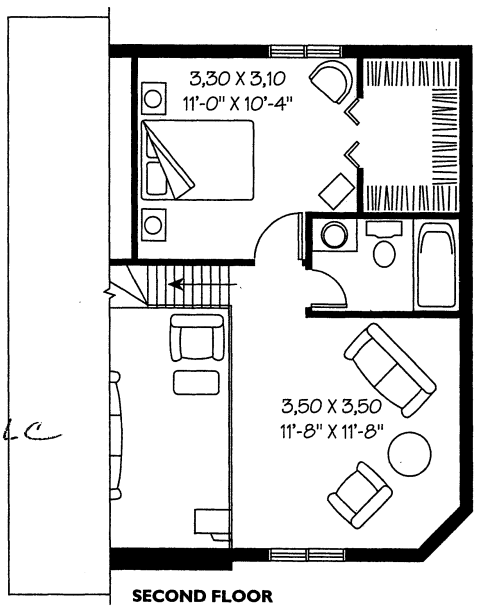
See Order Pages and Index for Info

Units	Single
Price Code	A
Total Finished	976 sq. ft.
First Finished	593 sq. ft.
Second Finished	383 sq. ft.
Basement Unfinished	593 sq. ft.
Dimensions	22'8"x26'8"
Foundation	Crawlspace
Bedrooms	2
Full Baths	2
First Ceiling	8'
Second Ceiling	8'
Primary Roof Pitch	12:12
Max Ridge Height	22'8"
Roof Framing	Truss
Exterior Walls	2x6

this is an example of the type of cottage we hope to build.



FIRST FLOOR



SECOND FLOOR

Square Knot Development LLC
Dexter - 789-7582

ZONE CHANGE APPLICATION

(APPLICANT PLEASE FILL IN SHADED AREAS AS A MINIMUM)

Project Number	Project Name	Case Number	Hearing Date	Date Received
PRJ08-131	North Douglas Re-Zone	MAP08-00004		7/30/08

NEW ZONE REQUESTED: D-18

DESCRIBE LIMITS OF AREA TO BE REZONED: North Douglas Highway. See Narrative.

TYPE OF ZONE CHANGE: [ ] Regular [X] Transition

PURPOSE OF THE REQUESTED ZONE CHANGE: See Narrative.

TYPE AND DENSITY OF PROPOSED DEVELOPMENT: See Narrative.

DESCRIBE IMPACTS TO ROADS AND ANY ADDITIONAL ROADS PROPOSED: See Narrative.

UTILITIES AVAILABLE **WATER:** [X] Public [ ] On Site **SEWER:** [X] Public [ ] On Site

DIMENSIONS OF SITE: Width ____ ft. Depth ____ ft. See Narrative. Square Feet ____

REVIEW APPROVALS

	Initials	Date
Buildings		
Engineering		
Planning		

devappzc.xls 1/30/97

ZONE CHANGE FEES

	Fees	Check No.	Receipt	Date
Application Fees	$ 500	1055291D	26574	7/30/08
Adjustment	$			
Public Notice Sign	$ 100 (50 x 2)			
Public Notice Sign Deposit	$ 200 (100 x 2)			
Total Fee	~~$ 750~~ $800.00			

NOTE: MUST BE ACCOMPANIED BY* DEVELOPMENT PERMIT APPLICATION *FORM

DEVELOPMENT PERMIT APPLICATION

(APPLICANT - PLEASE FILL IN THE PROJECT/APPLICANT INFORMATION)

Project Number	CITY and BOROUGH of JUNEAU	Date Received:
PRJ08-131		7/30/08
Project Name (City Staff to assign name): North Douglas Re-zone		

PROJECT / APPLICANT INFORMATION

Project Description: Re-zone to D-18

PROPERTY LOCATION

Street Address	City / Zip	
Douglas Highway 0	Juneau, 99801	
Subdivision (If known): Kowee Lot 1	**Survey (If known):** USMS 1072/1096	**Block / Tract (If known):** **Lot (If known):**
Assessor's Parcel Number (If known): 6D0601000011		

LANDOWNER/LESSEE

Property Owner's Name	Contact by E-Mail:	Contact Person	Work Phone No.
Channel Construction	murray@acsalaska.net	Murray Walsh	586-4083
Mailing Address: Box 33359, Juneau, AK 99803		**Home Phone No.:** 586-1106	**FAX No.:** 586-4093

LANDOWNER/LESSEE CONSENT (Required for Planning permits not needed on Building/Engineer permits)

I am (we are) the owner(s) or Lessee 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 officials and employees of the City and Borough of Juneau to inspect my property as needed to complete the requested review.

X _____ Landowner/Lessee Signature: W.R. Tonsgard Date _____

X _____ Landowner/Lessee Signature _____ Date _____

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours and will attempt to contact the landowner in addition to the formal consent given above. Further, members of the Planning Commission may visit the property and may do so during the weekend before the scheduled public hearing date.

INITIAL ALL THAT MAY APPLY

APPLICATION TYPE	OWNER'S INITIALS
ALLOWABLE USE	
CONDITIONAL USE	
VARIANCE	
DESIGN REVIEW	
SUBDIVISION	
OTHER: Re-zone	WRT

APPLICANT (If same as OWNER, write "SAME" and sign and date at X below)

Applicant's Name	Contact by E-Mail:	Contact Person	Work Phone No.
Channel Construction	murray@acsalaska.net	Murray Walsh	586-4083
Mailing Address: Box 33359, Juneau, AK 99803		**Home Phone No.:** 586-1106	**FAX No.:** 586-4093

X Murray Walsh Applicant's Signature X _____ Date of Application

STAFF APPROVALS

(OFFICE USE ONLY BELOW THIS LINE)

CK	PERMIT TYPE	SIGN	DATE RECEIVED	APPLICATION NO.	CK	PERMIT TYPE	DATE RECEIVED	APPLICATION NO.
	ALLOWABLE USE APPROVAL					WATER PERMIT		
	CONDITIONAL USE APPROVAL					SEWER PERMIT		
	VARIANCE					GRADING PERMIT		
	DESIGN REVIEW APPROVAL (MINOR / MAJOR)					DRIVEWAY PERMIT		
	SUBDIVISION (MINOR / MAJOR / PUD)					RIGHT-OF-WAY PERMIT		
	STREET VACATION					PUB. FAC. TRANSMISS. & EXCAV. PERMIT		
	SIGN APPROVAL (LOCATED IN HISTORIC DISTRICT? ☐ YES ☐ NO)				✓	OTHER - (Describe)	7/30/08	MAP08-4
	BUILDING PERMIT					Permit Intake Initials		CPC

Zone	Total Lot Area	Required Setbacks
		Front ____ Back ____ Side ____ Other ____

COMMENTS:

NOTE: DEVELOPMENT PERMIT APPLICATION FORM MUST ACCOMPANY ALL OTHER COMMUNITY DEVELOPMENT DEPARTMENT APPLICATIONS

DEVELOPMENT PERMIT APPLICATION

(APPLICANT - PLEASE FILL IN THE PROJECT/APPLICANT INFORMATION)

Project Number	CITY and BOROUGH of JUNEAU	Date Received:
AKRJ08-131		7/30/08

Project Name (City Staff to assign name): North Douglas Re-Zone

PROJECT / APPLICANT INFORMATION

Project Description

PROPERTY LOCATION

Street Address	City / Zip
4305 NORTH DOUGLAS HIGHWAY	JUNEAU, 99801

Subdivision (if known)	Survey (if known)	Block / Tract (if known)	Lot (if known)
	2305		15

Assessor's Parcel Number (if known): 6D0601130010

LANDOWNER/LESSEE

Property Owner's Name	Contact Person	Work Phone No.
GRANT CREEK HOMES, LLC. ☑ Contact by E-Mail: gary@grantcreekhomes.com	GARY TIGAR	818-687-3811
Mailing Address	**Home Phone No.**	**FAX No.**
18908 LASSEN STREET, NORTHRIDGE, CA 91324	818-701-0070	

LANDOWNER/LESSEE CONSENT (Required for Planning permits not needed on Building/Engineer permits)

I am (we are) the owner(s) or Lessee 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 to officials and employees of the City and Borough of Juneau to inspect my property as needed for evaluation of this application.

X _____ Landowner/Lessee Signature _____ Date

X _____ Landowner/Lessee Signature _____ Date

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours and will attempt to contact the landowner in addition to the formal consent given above. Further, members of the Planning Commission may visit the property and may do so during the weekend before the scheduled public hearing date.

INITIAL ALL THAT MAY APPLY

APPLICATION TYPE	OWNER'S INITIALS
ALLOWABLE USE	
CONDITIONAL USE	
VARIANCE	
DESIGN REVIEW	
SUBDIVISION	
OTHER:	

APPLICANT (If same as OWNER, write "SAME" and sign and date at X below)

Applicant's Name	Contact Person	Work Phone No.
TIGAR PROPERTIES ☐ Contact by E-Mail:		
Mailing Address	**Home Phone No.**	**FAX No.**
18908 LASSEN ST - NORTHRIDGE CA		

X _____ Applicant's Signature X _____ Date of Application

STAFF APPROVALS

(OFFICE USE ONLY BELOW THIS LINE)

CK	PERMIT TYPE		SIGN	DATE RECEIVED	APPLICATION NO.
	ALLOWABLE USE APPROVAL				
	CONDITIONAL USE APPROVAL				
	VARIANCE				
	DESIGN REVIEW APPROVAL	MINOR			
		MAJOR			
	SUBDIVISION	MINOR			
		MAJOR			
		PUD			
	STREET VACATION				
	SIGN APPROVAL (LOCATED IN HISTORIC DISTRICT? ☐ YES ☐ NO)				
	BUILDING PERMIT				

CK	PERMIT TYPE	DATE RECEIVED	APPLICATION NO.
	WATER PERMIT		
	SEWER PERMIT		
	GRADING PERMIT		
	DRIVEWAY PERMIT		
	RIGHT-OF-WAY PERMIT		
	PUBL FAC. TRANSMISS. & EXCAV. PERMIT		
✓	OTHER - (Describe)	7/30/08	Map 08-4
	Permit Intake Initials		

Zone _____ Total Lot Area _____ Required Setbacks: Front ___ Back ___ Side ___ Other ___

COMMENTS:

(FORMS/CDFORMS/PERMFORM.XLS REV. 3/14/08)

NOTE: DEVELOPMENT PERMIT APPLICATION *FORM MUST ACCOMPANY ALL OTHER COMMUNITY DEVELOPMENT DEPARTMENT APPLICATIONS*

DEVELOPMENT PERMIT APPLICATION

(APPLICANT - PLEASE FILL IN THE PROJECT/APPLICANT INFORMATION)

Project Number	CITY and BOROUGH of JUNEAU	Date Received:
PR2008-131		7/30/08

Project Name (City Staff to assign name): North Douglas Re-zone

PROJECT / APPLICANT INFORMATION

Project Description: Re-zone subject to D-18

PROPERTY LOCATION

Street Address		City / Zip	
Subdivision (if known)	Survey (if known): 2135	Block / Tract (if known): 1 TRACT	Lot (if known)
Assessor's Parcel Number (if known): 6D0601110020			

LANDOWNER/LESSEE

Property Owner's Name	Contact by E-Mail:	Contact Person	Work Phone No.
TIGAR PROPERTIES, INC.	gary@tigarproperties.com	Gary Tigar	818-687-3811
Mailing Address: 18908 Lassen Street, Northridge, CA 91324		Home Phone No.: 818-701-0070	FAX No.

LANDOWNER/LESSEE CONSENT

(Required for Planning permits not needed on Building/Engineer permits)

I am (we are) the owner(s) or Lessee 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 officials and employees of the City and Borough of Juneau to inspect my property as needed for purposes of this application.

X _____ Date _____
Landowner/Lessee Signature

X _____ Date _____
Landowner/Lessee Signature

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours and will attempt to contact the landowner in addition to the formal consent given above. Further, members of the Planning Commission may visit the property and may do so during the weekend before the scheduled public hearing date.

INITIAL ALL THAT MAY APPLY	
APPLICATION TYPE	OWNER'S INITIALS
ALLOWABLE USE	
CONDITIONAL USE	
VARIANCE	
DESIGN REVIEW	
SUBDIVISION	
OTHER: Re-Zone	

APPLICANT

(If same as OWNER, write "SAME" and sign and date at X below)

Applicant's Name	Contact by E-Mail:	Contact Person	Work Phone No.
Tigar Properties		M. Walsh	586-4093
Mailing Address: 18908 Lassen St., Northridge, CA		Home Phone No.: 723-8446	FAX No.: 586-4093

X _____ X 1-31-07
Applicant's Signature — Date of Application

(OFFICE USE ONLY BELOW THIS LINE)

STAFF APPROVALS

CK	PERMIT TYPE	SIGN	DATE RECEIVED	APPLICATION NO.
	ALLOWABLE USE APPROVAL			
	CONDITIONAL USE APPROVAL			
	VARIANCE			
	DESIGN REVIEW APPROVAL — MINOR / MAJOR			
	SUBDIVISION — MINOR / MAJOR / PUD			
	STREET VACATION			
	SIGN APPROVAL (LOCATED IN HISTORIC DISTRICT? YES / NO)			
	BUILDING PERMIT			

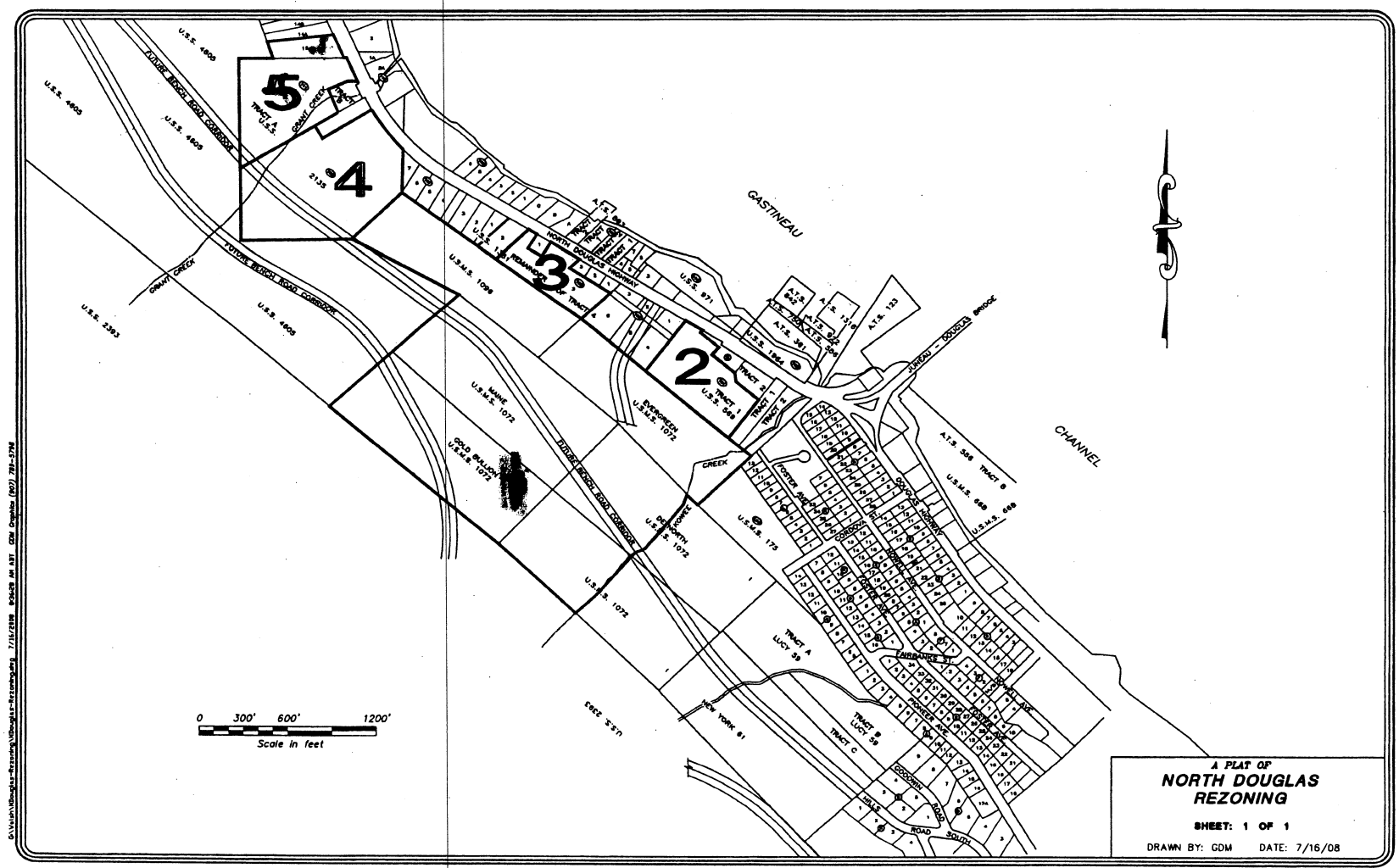
CK	PERMIT TYPE	DATE RECEIVED	APPLICATION NO.
	WATER PERMIT		
	SEWER PERMIT		
	GRADING PERMIT		
	DRIVEWAY PERMIT		
	RIGHT-OF-WAY PERMIT		
	PUB. FAC. TRANSMISS. & EXCAV. PERMIT		
✓	OTHER - (Describe)	7/30/08	MAP 08-4
	Permit Intake Initials	VRC	

Zone	Total Lot Area	Required Setbacks
		Front ___ Back ___ Side ___ Other ___

COMMENTS:

S:\FORMS\CDDFORMS\PERMITFORM.XLS REV. 3/16/06

NOTE: DEVELOPMENT PERMIT APPLICATION *FORM MUST ACCOMPANY ALL OTHER COMMUNITY DEVELOPMENT DEPARTMENT APPLICATIONS*



RECEIVED
JUL 30 2008
PERMIT CENTER/CDD

Attachment E – MAP2008-00004 – Rezone

Walsh Planning & Development Services
Murray R. Walsh, AICP
2974 Foster Ave.
Juneau, AK 99801

DATE: June 20, 2008

TO: Carolyn Morehouse, ADOT&PF

Voice: 907-586-4083
~~Fax: 907-586-4093~~

From: Murray Walsh

murray@acsalaska.net

RE: North Douglas Rezone Project

Greetings Carolyn,

I would appreciate your initial review of traffic considerations for a proposed rezone planned for the first mile of North Douglas Highway. A map is enclosed.

The area of the rezone is generally the property on the uphill side of North Douglas Highway (NDH) starting from Kowee Creek and running about a mile along the highway. There are a couple dozen small lots with houses on them now on the uphill side of the road. I can't say what will happen to these lots. Some of their owners may want to be rezoned and others may not. Whatever the case, the current traffic load from those lots will probably be about the same in the future as it is today.

There are, however, five large parcels whose owners assuredly want rezoning. These are numbered on the crude map and have the following characteristics:

Parcel 1: 86 acres. No direct access to an existing street. There is an access agreement with the owner of Parcel 4 and a pioneer road, with gate, has been built across Parcel 4 and across the lower portion of Parcel 1. The upper portion of Parcel 1 may be very difficult to develop because of steep slopes and perched wetlands. Because of this, I am going to address only the lower 40 acres of the parcel.

Parcel 2: 6 acres. Has direct adjacency with NDH. Moderate uphill slope with view potential.

Parcel 3: 4.23 acres. Has two access locations to NDH. Existing church building. Moderate uphill slope with view potential.

RECEIVED
JUL 30 2008
PERMIT CENTER/CDD

Parcel 4: 17 acres. Easy uphill slope.

Parcel 5: 10.4 acres. Easy uphill slope. Some stream interference near the top.

All this land is presently regulated at one unit per acre. The minimum lot size for a single family house is 36,000 square feet. The rezone request will be to change to D-18 which would allow 18 units per acre. The CBJ does not have to grant the requested rezone. The city could change it to something less. Other available classifications are D-15, D-10, and D-5 which is the class most closely identified for single family home subdivisions. There is a fair bit of pressure for the most density because higher density would enable more affordable housing. The only substantive public policy concern, so far identified, is the potential traffic impact on the streets nearby.

The ADOT&PF website shows 2006 traffic – both ways – as having an ADT of 4229 on NDH just north of the roundabout. I am told that it is the peak hour, especially the AM peak, which is of the highest concern in this situation. The PM peak should be very easy to handle thanks to the roundabout and the ease of turning right off the bridge to NDH.

There are about 600 dwelling units on NDH north of the bridge. On the weekend, a lot of the traffic will be recreationists from other parts of town using NDH for boating and hiking in the summer and skiing in the winter. During the week, nearly all of the traffic should be attributable to residences. If so, this results in seven trips per dwelling unit, or 3.5 trips each way.

On June 20, 2008, I counted southbound cars from NDH entering the roundabout from 6:45 to 8:15 with the following results:

Period	No. Cars	Of the Cars, w/Pax	Bus	Trucks	Bicycle
6:45 – 7:00	41	5			
7:00 – 7:15	51	7	1		1
7:15 – 7:30	51	9	1		
7:30 – 7:45	80	21	1	1	1
7:45 – 8:00	70	8			3
8:00 – 8:15	48	9		2	5
Totals	341	59			

Traffic flowed freely throughout the observation period. On only one occasion did cars stack at the roundabout entrance and this was only a stack of three. Their pause lasted less than five seconds. The trucks counted were all semi-trailer dump trucks probably hauling shot rock from the CBJ quarry off of the Eaglecrest access road. While not germane to the primary issue, I was heartened to see so many vehicles with more than one person in them. I did not count kids. In 35 years of observing traffic, off and on, this is a higher percentage, over 17 percent, than I have ever seen during the AM peak.

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Now, to development potential. Because of their sloping topography, I don't think any of the parcels could be built out to the maximum allowable for the denser zones, so a percentage of the maximum allowable is shown.

Parcel	Usable Ac.	No. DU @ D-5	No. DU @ D-10 (95%)	No. DU @ D-15 (90%)	No. DU @ D-18 (85%)
1	40	200	380	540	612
2	6	30	57	81	92
3	4.23	21	40	57	65
4	17	85	161	229	260
5	10.3	51	98	139	158
Totals	77.53	387	736	1046	1187

It should be noted that at any level of density, it will take many years to develop these parcels to their potential. The market will only accommodate so many units per year. Juneau is presently growing very slowly. The recent history of residential development can be seen on the Community Development Department's website. The history over the last ten years is excerpted below:

Year	No. Res Units*
1997	232
1998	147
1999	138
2000	114
2001	108
2002	153
2003	205
2004	149
2005	142
2006	157
	1545

* This includes all types, from single family dwellings to apartments, but not hotels or transient facilities.

The average number of new units is 155 per year. So, if *all* of the new residential construction were to be located on the five parcels under examination, it would take a minimum of ten years to build out completely. More realistically, since the freestanding single family home is still the American Dream, I would expect build-out to take closer to 20 years.

This morning's traffic count over 90 minutes showed that of the 600 existing dwelling units out NDH, just over half, 341 generated a trip (assuming one car per house.) If you define the peak hour as 6:45 to 7:45, the number of trips generated is well under half of the units at 223 or 37 percent. Units on the five parcels being examined will be within walking distance to downtown and especially close to the Federal Building and the

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offices near the mainland end of the bridge. Given the low peak hour trip generation numbers and location, I think it is fair to predict that 40 percent of the dwelling units on the five parcels will generate AM peak hour trips. This is what that works out to for each zoning option:

	D-5	D-10	D-15	D-18
No. Units at Full Build-Out	387	736	1046	1187
AM Peak Hour Trips @ 40%	159	294	418	475

The 2006 ADOT&PF traffic data map shows that the entering/exiting the roundabout from/to Douglas Highway at 10,536. Presumably, half of this number or 5268, are northbound trips entering the roundabout from Douglas Highway. The AM peak hour count this morning, 223 is just over ten percent of the total southbound ADT of 2114 entering the roundabout from NDH. If this can be taken as a rule of thumb for Douglas Island residents, then 11 percent of the northbound ADT, or 579 trips are entering the roundabout during the same peak hour that the 223 NDH trips are entering. This works out to 13 cars per minute entering the roundabout from the two Douglas entrances.

I believe the roundabout can handle a doubling or tripling of traffic entering from NDH. That traffic has some advantage over the northbound traffic from Douglas. What additional data or analysis would you require to make your own assessment? Thank you for your attention and consideration.

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Narrative for North Douglas Rezone Application
July 30, 2008

The headings below are taken from the "Zone Change Application" form provided by CDD.

New Zone Requested: D-18

Limits of Area to be Rezoned:

This application is for three parcels that are shown on the attached map. We expect CDD will propose to rezone all of the area between Parcel 1 and Parcel 5, but this application has DPAs only for Parcel 1 and the two lots that comprise Parcel 5. There are three other numbered parcels that are largely undeveloped, but for a church on Parcel 3. Informal consultations indicate that their owners would also be supportive of rezoning.

Purpose of the Requested Zone Change:

The area is presently zoned low density residential because there is no public sewer to serve it. Now, however, the CBJ is constructing public sewer to serve the first mile of North Douglas Highway. The Comprehensive Plan, and draft revisions to it now under consideration, show the entire area as suitable for higher density residential use once the sewer is in place. Juneau has been enduring a chronic housing shortage for many years. The shortage is growing acute in more recent times because there are so few places left to develop. A large scale rezone in this area could finally put Juneau's housing market into the hands of the buyers and upgrade the standard of living borough-wide.

Type and Density of Proposed Development:

The large-format rezone that is likely to result from this application could rezone the entire area encompassed between Parcels 1 and 2 on the SE side and Parcel 5 on the NW end. These parcels and their potential are discussed in the attached WPDS memorandum to Carolyn Morehouse, ADOT&PF's SE Region Traffic Engineer.[1] At this point, none of the property owners can stipulate what type and density will be proposed. What can be said is that the owners would seek to build residential development that would be more dense than typical D-3 or D-5 single family subdivisions because the hillside requires more development expense and because the market needs more affordable housing that can be provided at higher density. This area could provide a very diverse array of housing options from typical apartments and condominium developments to townhouses, cottage housing, bungalow housing and PUDs.

[1] The first paragraph of this memorandum has been altered since the original was sent because a proper map has now been developed. Only a crude map was available for the original memo.

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Describe Impacts to Roads and Any Additional Roads Proposed:

It is not possible to describe new roads with any precision. Parcels 1 and 4 have been developed with pioneer roads, whose routes are based on the landform. Those roads are likely to become the routes of public streets and were designed to meet the CBJ's requirements for public streets. Road ideas are in play for Parcel 5 but will depend on the owner's eventual development strategy. With regard to traffic impact, some analysis has been done but more needs to be done. The above-referenced memorandum was submitted for ADOT&PF review. The result of the agency's review is that more work needs to be done. Carolyn Morehouse's response contained the following:

> The data you collected does not include school mornings which add a lot of traffic. It does not include analysis at the traffic signal. It doesn't project how much traffic the developments will generate.
>
> DOT would require a traffic impact analysis prepared in accordance with ITE procedures for a development that reaches 100 trips in the peak hour. The TIA would need to be completed and sealed by a Professional Engineer with experience in traffic analysis.
>
> The roundabout is not a problem area-it has the capacity for growth. The problem area in the am peak is the 10th and Egan traffic signal. The TIA would analyze the increased capacity of the development on the traffic signal at 10th and Egan.
>
> The driveways have to have proper sight distance and built to the current design standards. The sloped driveway would have to have a level approach onto North Douglas Highway.
>
> The TIA would have to be accepted by DOT and any traffic mitigation completed before driveway permit would be issued by the state.
>
> Lots 4 and 5 look like sight distance may be an issue. If these are identical owner's maybe you could access all lots from lot 3. This would be favorable for the state and the future growth of North Douglas especially if the 2nd crossing happens without a by pass road.

To respond to these observations will require more study, in particular some traffic counts after the school year has begun. The applicant will initiate this work in August. In doing so, we will show the proposed scope of work by a local traffic engineer to ADOT&PF as well as to CDD.

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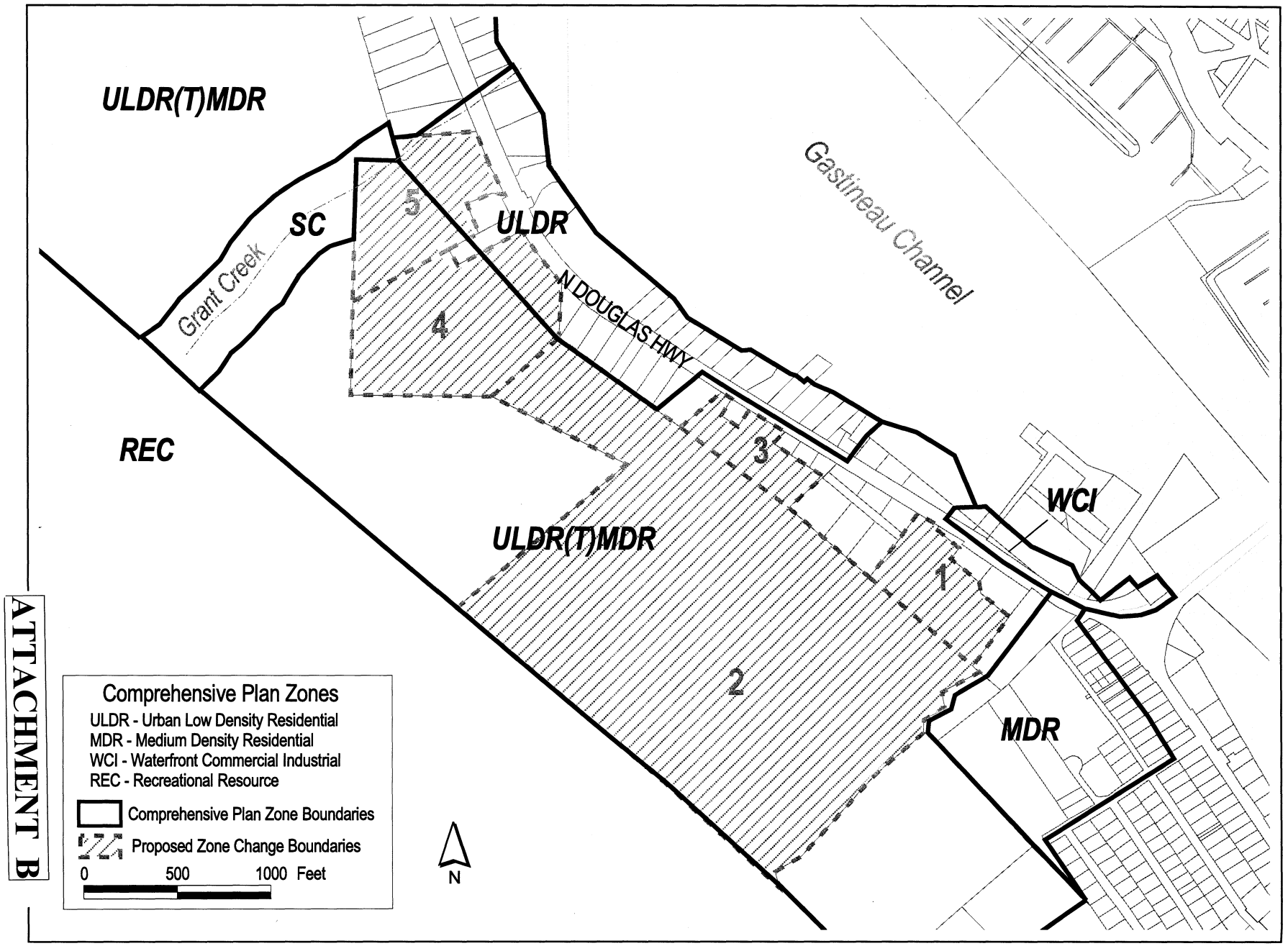
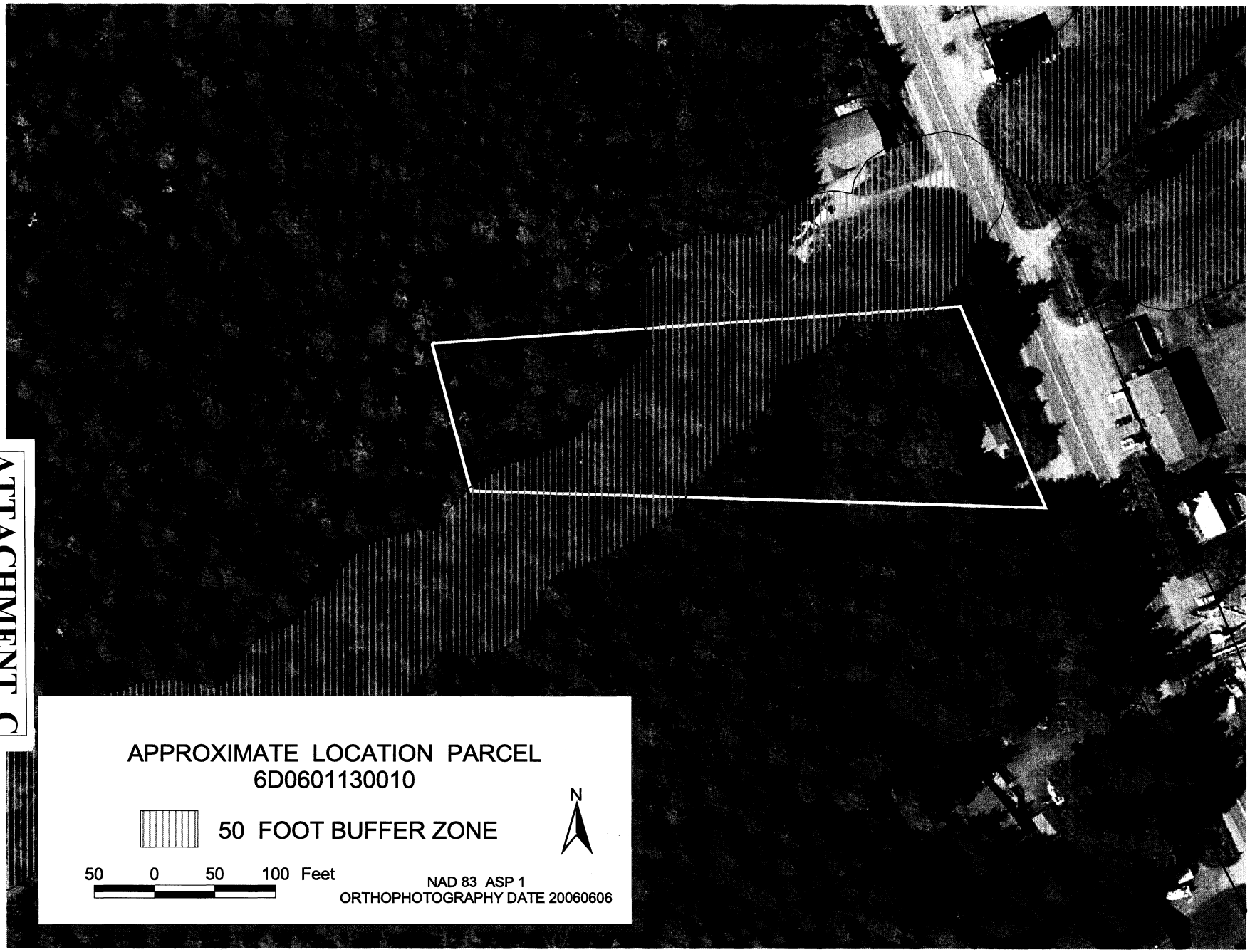
ATTACHMENT A



ATTACHMENT B

Attachment E – MAP2008-00004 – Rezone


ATTACHMENT C
APPROXIMATE LOCATION PARCEL
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ORTHOPHOTOGRAPHY DATE 20060606

CITY AND BOROUGH OF JUNEAU

TRAFFIC IMPACT ANALYSIS

NORTH DOUGLAS HIGHWAY REZONE

Juneau, Alaska

Final

August 2009

Prepared for:
City and Borough of Juneau
155 S Seward Street
Juneau, Alaska 99801

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USKH WO# 978801

ATTACHMENT D

SUMMARY

The City and Borough of Juneau is anticipating the re-zoning of land along North Douglas Highway. The re-zoning is allowed under the 2008 update of the City and Borough of Juneau Comprehensive Plan. The City and Borough of Juneau is extending the sanitary sewer system along North Douglas Highway, which removes a significant impediment to development. Housing growth is expected to include both the development of vacant land and subdivision of existing, developed parcels.

This Traffic Impact Analysis includes estimates of projected growth along this corridor and the analysis of impacts to traffic conditions at the Douglas roundabout and at the Egan Drive and 10th Street intersection. Level of service and capacity at these intersections will be negatively impacted by development along North Douglas Highway. The rezoning action will not generate traffic, but as development occurs over time, capacity improvements will eventually be required to meet minimum traffic standards.

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ACRONYMS

CBJ.....City and Borough of Juneau
CDD.....Community Development Department
DOL.....Alaska Department of Labor and Workforce Development
DOT&PF.....Alaska Department of Transportation and Public Facilities
DU.....dwelling unit
EIS.....Environmental Impact Statement
ITE.....Institute of Transportation Engineers
LOS.....level of service
NCHRP.....National Cooperative Highway Research Program
NDH.....North Douglas Highway
PPH.....persons-per-household
PUD.....Planned Unit Development
ROW.....right-of-way
TIA.....Traffic Impact Analysis
v/c.....volume to capacity ratio

1 INTRODUCTION

The City and Borough of Juneau (CBJ) has requested a traffic impact analysis (TIA) for the re-zoning of land along North Douglas Highway (NDH), and specifically for the area bounded by Kowee Creek on the southeast and Bonnie Brae subdivision to the northwest. The re-zoning is anticipated and allowed under the 2008 update of the CBJ Comprehensive Plan

It is unlikely that proposed development over time due to the rezone will tax the capacity of NDH. The Alaska Department of Transportation and Public Facilities (DOT&PF) is most interested in the potential impacts to traffic conditions at the Douglas roundabout and at the intersection of Egan Drive and 10th Street. This TIA includes a development projection to support the traffic projections needed for the analysis of these intersections. The analysis includes capacity and safety studies.

2 DEVELOPMENT PROJECTION

The NDH corridor can be divided into three fairly specific sections (see Figure 1 – Study Area Map). Section One is the first mile or so of NDH that will be served by the upcoming sewer project. Section Two is the area between Section One and Bonnie Brae. Section Three is Bonnie Brae itself and the area across the highway on the channel side. The development potential for each section will be projected in this Development Projection Summary. First, however, some general information and analysis of Juneau's population and housing history are needed to set the stage.

2.1 CBJ Development Trends

The development of a city can be somewhat characterized with statistics on population and housing. There are three sources of information on population in Alaska: 1) the U.S. Census Bureau; 2) the Alaska Department of Labor and Workforce Development (DOL); and 3) the CBJ's Community Development Department (CDD) annual population estimate. Data on housing is taken from CDD's building permit records and the Assessor's records. Table 1 shows combined data from these sources.

There is quite a difference between CDD's estimate for 1990 and the U.S. Census result for that year. More recently, the DOL and CDD estimates are much closer to each other and both agencies show that the population high point was in 2005. The difference between the estimates was only 11 people. More significantly, Juneau has lost population from 2005 to the present. This is due to several factors:

- Construction on the Kensington Mine was largely complete by May 2008, and construction workers that had moved to Juneau on a temporary basis had left town by the time the estimate was prepared[1].
- Movement of several state department commissioner positions, and their support staff, to places outside Juneau.
- A generally flat economy locally.
- The 2008 nationwide general recession, first sensed in early 2008, but in full tilt by the end of the year.

Two sources of data on the housing stock are in play. Table 1 shows housing stock estimates drawn from the CBJ Assessor's records. The other source is CDD's Building Permit records. Table 2 provides a summary of the history from that source.

[1] A large reduction in staff at the Kensington Mine from over 100 to about 20 today occurred after CDD published the 2008 population estimate. This decline will show up in the mid-2009 estimate, if CDD does one.

Table 1 - CBJ Housing and Population History

No. Dwelling Units* (DU)	Persons per Household (PPH)	Population Estimates			
				CBJ Comm. Dev. Dept	
		Year	AK Dept. of Labor	Population	Mo./Yr. Prepared
13,007	2.48	2008	N/A	30,947	05/08
		2007	N/A	N/A	
12,801	2.48	2006	30,650	31,160	06/06
		2005	31,182	31,193	02/06
		2004	31,094	31,142	1/05
		2003	31,286	31,283	1/04
		2002	30,991	30,981	1/03
12,369	2.49	2001	30,453	30,903	11/01
		2000	(US Census) 30,711	31,262	11/00
		1999		30,852	11/99
11,965	2.60	1998		30,684	10/98
11,781	2.60	1997		30,396	10/97
11,515	2.65	1996		30,209	10-11/96
11,186	2.65	1995		29,755	10/95
10,912	2.64	1994		29,078	10/94
10,821	2.64	1993		28,791	10/93
10,538	2.76	1992		29,251	10/92
10,451	2.76	1991		28,965	9-10/91
		1990	(US Census) 26,751	29,881	9-10/90

* This number is derived from Assessor records, not the Building Permit data.
DU – Dwelling Unit
PPH – Persons Per Household

Table 2- Building Permit Records	
Year	**No. Res. Units Added**
1997	232
1998	147
1999	138
2000	114
2001	108
2002	153
2003	205
2004	149
2005	142
2006	157
2007	97
2008	55
Total	1,694

One discrepancy is evident. The number of Dwelling Units (DUs) claimed (Assessor) in 1997 was 11,781. Table 2 (Building Permit) shows that 1,694 units were added to the housing stock. These two numbers total 13,475, yet the CDD claims (Assessor) just 13,007 DUs in 2008; so where are the missing 468 DUs? This seems like a large number. There are three considerations.

1. The City does not keep good records of the number of DUs lost over the years. There may be data available, but it doesn't show up in the two City sources used to develop the tables above.
2. The Building Permit information is based on permits issued and may not reflect how many units were actually built. A discussion with Debra Purves, the CBJ Building Official, suggests this is unlikely to account for very many units. By the time a developer is all the way to the end of the Building Permit process, there has been a significant amount of time and money spent on planning and design and so the incentive to finish the project is high.
3. CDD's DU totals for building permits processed in 2008 were reviewed by Walsh Planning & Development Services and found to be somewhat inaccurate. Some building permits were listed as showing production of a new DU when in fact they did not. Some projects were remodel efforts that were listed as creating new units but in fact did not. One project clearly removed an apartment from a house, lowering the inventory by one.

The larger question though, is if there are were 28,965 people living in Juneau in 1991 in 10,451 DUs, and in 2008 there were 13,007 DUs housing 30,947 people (and this after the population had actually been larger, topping out in 2005 according to both DOL and CDD); then how can so few people inhabit so many homes? The answer is in two parts, Persons Per Household (PPH) and vacancy rates. The former is lower than in 1991 and the latter is much higher.

Table 3 - Occupancy and Vacancy Data							
	No. DU	Vac. Rate	Occupied Units	Multiply	Persons per Household	Gross Derived Population	Corrected After Summing Subarea Calculations
1991	10,451	1.20%	10,325	X	2.76	28,497	28,965
2008	13,007	3.55%	12,546	X	2.48	31,114	30,947
NOTE: The reason for the difference between the "Gross" and "Corrected" populations is that CDD performs the Vacancy/PPH calculation for each of nine subareas in the City and sums the products of those calculations. The Gross column above is the product of the summary numbers in the table							

Juneau had a housing shortage in 1991 (and anecdotally, has had since anyone can remember) causing the higher PPH and very low vacancy rates. It was a seller's market. Other data show an aging of the population, which indicates that there were more children in homes in 1991 compared to 2008. As the children moved out and started their own households, the parents stayed on as well, thus lowering the PPH.

A true buyer's market is generally said to reflect a 5 percent vacancy rate. In 2008 Juneau was getting close. Apartments (4.42 percent) were near 5 percent and duplexes (7.29 percent) were considerably higher; but the gold standard – the detached single-family home – only reached 2.16 percent[2]. Local real estate agents say this is enough to cause sellers to be "negotiable" and home prices did fall slightly in 2008.

The 2008 year was an instructive one for housing analysis. According to a real estate broker whose firm handled 20 percent of the transactions in 2008, there were 284 residential sales in Juneau during that year, including condominiums, townhouses, attached homes, and detached single-family homes. The broker's estimate was that 75 percent of the buyers were people who already lived in Juneau and wanted to upgrade (or perhaps downgrade to reflect smaller family size) from previous quarters.

2.2 Future CBJ Trends

The recent past might seem to portend a glum development future for Juneau. This will be explored further below, but the *need* for additional housing should also be examined. The CBJ conducted a housing study recently. The key standard for assessing housing affordability, as set forth in the study, is as follows:

> "For a homeowner, the mortgage, private mortgage insurance, homeowners' association fee, and taxes, plus essential utilities, should not exceed 30% of the household's income."[3]

A similar standard is set for renters. The report goes on to say that in 2000, "approximately 37 percent of CBJ *renter* households paid more than 30 percent of their income for shelter and about 17 percent of *owner* households paid more than 30 percent of their income for shelter." (Emphasis in the original)

[2] All of these vacancy factors came from CDD's 2008 population estimate.

[3] The report does not specify whether this is gross income or net take-home pay. Discussions with local bankers show bank policy of 30 percent, or less, of the gross is needed to qualify for a mortgage. The 30 percent is to cover the mortgage, all insurances, homeowner's fees, and taxes. It does not include utilities.

Oddly, the report goes on to say these figures did not include the costs of essential utilities such as home heating, power, water, sewer, and garbage service. Obviously, if the essential utilities were included, the number of renters and owners who pay too much would be higher still, especially considering the recent price hikes in fuel oil. Neither standard addresses fire and liability insurance.

Two other standards relating to the health of the housing stock relate to safety/sanitary conditions and overcrowding. The report says Juneau is doing well regarding these standards, but clearly not in the affordability department. Finally, after some hedging, the report declares that "an addition of 750 to 1,000 units in the near term would probably significantly ease the cost burden on Juneau households."

The CBJ report does not specify what kind of additional units should be supplied and it should be clear that this is an expression of need based on affordability - not necessarily market demand. In general, it is safe to say that as long as there is an assured variety in the units – ranging from rental apartments through large, detached single-family homes – then Juneau's housing affordability problem would be addressed by additional development. The report goes on to address ways and means to expand the housing inventory. The original purpose for this traffic study – to rezone a large area of land soon to be served with sewer along NDH – will definitely serve to help meet the report's goals. The CBJ is serious about expanding the housing stock, having already taken several actions to encourage developers to produce affordable units.

Finally, on the subject of housing, the conclusion is apparent that even with little or no population growth, there is still pressure to build more dwelling units to address that part of the population that wants to upgrade (or perhaps just live in a different location), and to address that part of the population that does not have enough affordable housing options.

Population growth has been slow in Juneau. Just how slow depends on which starting point is used. The DOL estimates are never exactly the same as CDD's but they are much closer in recent years. At the common starting point on Table 1, 1990, there is a much wider discrepancy. DOL uses the U.S. Census for years ending in zero and the number in 1990 was 26,751. CDD's estimate for 1990 was 29,881, a difference of 3,130 people.

The highest population, according to both CDD and DOL, was in 2005. Using DOL numbers, the population grew by 4,431 people from 1990 to 2005. According to CDD, the population grew by about 1,312 people over the same 15-year period. The DOL numbers indicate a growth rate of 1.04 percent per year compounded annually. The CDD growth rate works out to about 0.3 percent per year.

CDD and the DOT&PF have typically used growth rates of 1.0 to 1.5 percent per year for planning purposes. Merging the DOL and CDD numbers to arrive at an anticipated growth rate is mathematically awkward, and the past does not always foretell the future. Even so, there are anticipated events that may help a projection:

- Opening of the Kensington Mine will require 300 workers to finish construction and begin operations. Construction could finish in mid-to-late 2010, at that point the permanent mine population is expected to be about 200, which will generate another 170 indirect jobs. The 370 total jobs could reflect a population increase of 500 to include spouses and children.
- The Juneau access road, now called the Lynn Canal Highway, will generate construction jobs for many years if it goes forward. There is still doubt over whether the project will ever launch, but it is

state and local policy that it should. DOT&PF has stated the intention that the work will be broken up into small increments that will allow local and regional contractors to bid on the job. The Final Environmental Impact Statement (EIS) for the road estimates that direct, indirect, and induced employment will total 360 jobs. The project will go on for several years – at least 5 and potentially as long as 12.

- The Alaska state budget looks flat for the immediate future but if the price of oil stabilizes post-recession, and the gas pipeline draws closer to reality, it can be expected that the Juneau-based state employee work force will grow modestly.
- The price of gold is higher at present than it has been for decades. If the mining industry sees the price stay high, then interest in other mines could be sparked. The Tulsequah Chief Mine up the Taku River is slated to start up in 2009. A few local direct jobs will be created, and the mine's developer expects to spend about $25 million a year in Juneau (mostly on commodities), which will generate some indirect jobs. There are many other historic mine sites, which are still believed to contain valuable ore. Foremost of these is the AJ Mine, which was the subject of much endeavor during the late 1980s and the first half of the 1990s, sparking a lot of economic activity just in the exploration, planning, and permitting effort.
- Juneau has many amenities and appears to be a reasonably attractive place to retire. Many who have lived here during their careers continue to stay after retiring. Certainly the City and Borough of Sitka has enjoyed this status, even to the point where people from out-of-town have arrived to retire.
- There is also a pattern of in-migration from the smaller outlying communities that are having economic problems of their own.

All of the foregoing suggests that the current decline may be short and that modest growth can be expected in the next 20 years. A merged DOL/CDD derived growth rate of 0.7 percent might actually reflect reality, but working with a slightly higher rate will ensure that traffic is not under-projected. So, Table 4 is based on a 1.0 percent population growth rate. However, the housing growth rate is based on a higher number. As noted above, there are higher vacancy rates and lower occupancy rates today than 18 years ago. From 1990 to 2000, housing grew at almost 1.8 percent. From 2001 to 2008 the rate dropped to less than 1.0 percent. For the future, given natural growth, new industry, and community pressure to make housing more affordable, a housing growth rate of 1.2 percent was used.

Table 4 was compounded on an annual basis. The population for each year is 101.0 percent of the preceding year and the housing units for each year are 101.2 percent of the number for the preceding year.

Table 4 - Population and Housing Growth Projection

Year	Pop. @ 1.0%/yr.	Dwelling Units @ 1.2%/yr
2009	*31,247	**13,062
2010	31,559	13,219
2011	31,875	13,377
2012	32,193	13,538
2013	32,516	13,700
2014	32,840	13,865
2015	33,169	14,031
2016	33,501	14,200
2017	33,836	14,370
2018	34,174	14,542

Table 4 - Population and Housing Growth Projection		
Year	**Pop. @ 1.0%/yr.**	**Dwelling Units @ 1.2%/yr**
2019	34,516	14,717
2020	34,861	14,894
2021	35,210	15,072
2022	35,562	15,253
2023	35,917	15,436
2024	36,276	15,622
2025	36,640	15,809
2026	37,006	15,999
2027	37,376	16,190
2028	37,750	16,384
2029	38,127	16,580
2030	38,509	16,779
*Taken from the 2008 CDD estimate with a 300 increase due to start up of the Kensington. ** These are the 2008 (May) numbers plus the building permits issued that year.		

This indicates 1,832 new units will be added between 2010 and 2020, and an additional 1,885 new units between 2021 and 2030[4]. The question arises, what kind will they be? The percentage of high-density units like condos and apartments is sure to go up because there is so little land available for lower-density developments. According to its population estimate, CDD describes the distribution of housing types in 2008 as follows (Table 5):

Table 5 - Housing Mix in 2008		
Housing Type	**Total Units**	**% of Whole**
Single-family (SF)	5,735	44.09
Apartments (SF)	683	5.25
Duplex	580	4.46
Zero-Lot	826	6.35
Condo/Townhouse	1,184	9.10
Multi-Family	2,666	20.49
Mobile Home	1,237	9.52
Boats	89	0.68
RVs	7	0.06
Total Housing Units	13,007	100.00

Some further background will set the stage for estimating the future housing mix. The CBJ requires public sewer and water for any development that is denser than one unit per acre. There are several areas north of Auke Bay that are in private ownership and have been developed at this density, and several areas also in private ownership that could be so developed in the future. This is the most land-consumptive and least affordable form of residential development. Traditional neighborhoods in the utility-served areas of town are developed at densities of three to five units per acre. These are the D-3 and D-5 zoning districts, which also allow duplexes and zero-lot line structures. There is a land penalty for the double units. In D-3, the minimum lot size for a single-family unit is 12,000 square feet. A

[4] Despite the difference in growth rates, the change in PPH is very small. It will shrink from 2.39 in 2009 to 2.29 in 2030, according to the table.

double unit requires 18,000 square feet. For D-5, the single unit minimum is 7,000 square feet and a double unit needs 10,500 square feet.

This kind of development is most easily done on flat dry land, and the east Mendenhall Valley (east of the Mendenhall River) has become Juneau's primary traditional residential area since it is served with both water and sewer. There is relatively little un-built area left in the east valley but sewer has now been extended to the upper west valley along Back Loop Road, and D-3/D-5 development is proceeding there, albeit at a slow pace. There are also sloping areas supporting D-3/D-5 developments, with Mountainside Estates and West Juneau as the primary examples. These homes have views as well as higher development costs and are less affordable than those in flat areas. There is some room for further growth in both areas but the homes will be expensive, generally over $500,000.

So, the first factor to consider is the increasing scarcity of flat, dry land that is served with public water and sewer. A second factor is the general increase in the cost of building materials ranging from sand to concrete and lumber. A third factor is that the CBJ land use code now provides more options for smaller homes. These are:

1. The Planned Unit Development (PUD) code that allows higher-density, i.e., smaller lots, in exchange for creating public areas and parks to be shared by the development's residents. There is no limit on the house size for PUDs.
2. The Cottage Housing code, similar to PUDs, where there are shared amenities but no real lot associated with the house. Each house would be a single unit, but limited to 1,200 square feet on two floors.
3. Bungalow housing, which will allow small homes no greater than 1,000 square feet to be built as infill on pre-developed lots.

All three of these new options provide that each unit can be bought, thus allowing the owner to gain equity just as in traditional housing, but the land is managed by the community association in the same way as a condominium association. All three would allow the feel of single-family homes in much denser developments, thus providing more affordable homes than traditional single-family developments.

A fourth factor is recent local trends in housing type development. The period from 2001 to 2008 may be more instructive than the earlier housing history. The housing mix in 2001, compared with that of 2008 in percentages, is demonstrated in Table 6:

Table 6 - Housing Mix Comparison: 2001-2008

	Housing Mix in 2001		2008
Housing Type	Total Units	% of Whole	% of Whole
Single-family (SF)	5,323	43.06	44.09
Apartments (SF)	587	4.76	5.25
Duplex	572	4.48	4.46
Zero-Lot	774	6.28	6.35
Condo/Townhouse	1,098	8.89	9.10
Multi-Family	2,628	21.26	20.49
Mobile Home	1,225	9.93	9.52
Boats	129	1.06	0.68

Table 6 - Housing Mix Comparison: 2001-2008			
	Housing Mix in 2001		2008
Housing Type	Total Units	% of Whole	% of Whole
RVs	33	0.28	0.06
Total Housing Units	12,369	100.00	100.00

As can be seen, no meaningful trend is apparent (except for RVs). What can be expected, given the other factors cited, is that more of the single-family detached dwellings will be of the smaller size now contemplated in the land use code. With that, the projections for the future can be estimated based on the current mix. For 2020 and 2030, the distributions of new units are expected to be as follows (Table 7):

Table 7 - Housing Mix Comparison, New Units: 2020 to 2030				
	Housing Mix in 2020, New Units		Housing Mix in 2030, New	
Housing Type	Total Units	% of Whole	Total Units	% of Whole
Single-family (SF)	808	44.09	831	44.09
Apartments (SF)	96	5.25	99	5.25
Duplex	82	4.46	84	4.46
Zero-Lot	116	6.35	120	6.35
Condo/Townhouse	168	9.10	172	9.10
Multi-Family	375	20.49	386	20.49
Mobile Home	174	9.52	179	9.52
Boats	12	0.68	13	0.68
RVs	1	0.06	1	0.06
Total Housing Units	1,832	100.00	1,885	100.00

The 2020 projection added to the 2030 projection accounts for all of the 3,717 new housing units expected to be built in Juneau by 2030.

2.3 North Douglas Projections

Now the question of how many of these new units would or could be built along NDH can be addressed. First, it appears that the entire length of NDH, out to Bonnie Brae, will eventually be served with sewer before 2020. The current sewer project, to be completed in 2009, will start at the Douglas Bridge and extend about 1-mile northwest, ending at 4300 North Douglas Highway. A second phase, funded and planned for 2010, will go at least as far as the Channel View Terrace mobile home park. What remains is a third phase to connect the rest of the way to Bonnie Brae, which is already served with public sewer. This is not funded but is seen by CBJ Engineering to be reasonable for near-term completion and thus is assumed to be built for our projections.

2.4 Section One: Kowee Creek to End of 2009 Sewer Extension

This area, on the uphill side of the highway, is specifically addressed in the 2008 update of the CBJ Comprehensive Plan as a transition area that is to be given high-density residential zoning when sewer is available. The area beyond is not given any transitional status. The Comprehensive Plan shows Section One as transitioning from "Urban Low-density Residential" to "Medium Density Residential." In zoning terms, this has the practical effect of changing from a one unit per acre limitation (forced by lack

of sewer, not zoning) to one or more of three higher-density options: 10 units per acre, 15 units per acre, or 18 units per acre. This analysis will address development potential as if the entire area uphill of NDH is rezoned to one of the three classifications. The uphill area is a band of land about 1,200 feet wide and almost a mile long.

The area on the water side of Section One is not shown as transitional, meaning it would keep the zoning it has now – D-3. There are 31 individual parcels on the water side of Section One. All but 5 have houses on them, sometimes duplexes. The arrival of sewer will enable more duplexes, or apartment additions to single-family homes. There is one tract that has about 600 feet of frontage on the highway and might be seen to have subdivision potential, but this is made difficult by the CBJ rule that requires new lots to front on residential streets, not arterials, which is the classification of NDH. There are topographic challenges as well. The overall growth potential for this tract is no more than 20 new units

The uphill side of Section One has the most significant growth potential. The rezone application submitted in July 2008 was specific to Parcel 1 and Parcel 5 (see Figure 2). It is anticipated that the City will expand the request to include the entire area between those two parcels and actually, a little further; one parcel short of the area presently zoned General Commercial. This would have the effect of rezoning Parcels 2, 3, and 4 as well as all of the smaller lots – nearly all of which have been developed with single-family houses. The five major parcels are vacant save for Parcel 3, which has a church building on it. The rezone application requests change to D-18, or 18 units per acre. This is typical for apartments, condominiums, row houses, townhouses, and for the new DU types envisioned in the City's new cottage and bungalow housing options.

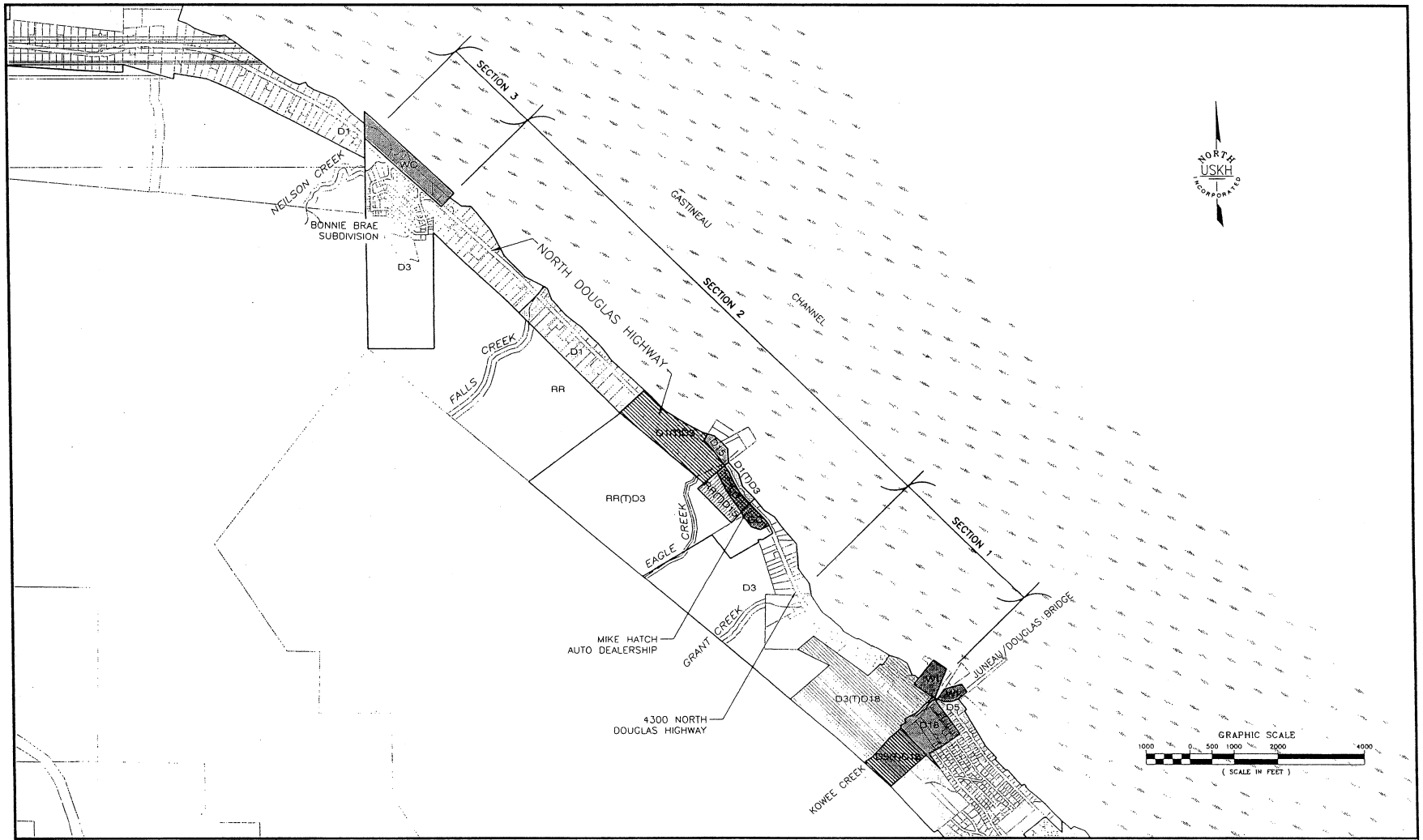
Parcel 1: 86 acres. No direct access to an existing street. There is an access agreement with the owner of Parcel 4 and a pioneer road, with gate, has been built across Parcel 4 and across the lower portion of Parcel 1. This is shown on Figure 1. A DOT&PF driveway permit was obtained for the driveway intersection with NDH, and sight distance was evaluated at that time. The pioneer road was built to meet CBJ grade and curve requirements and can easily be finished as a public street.

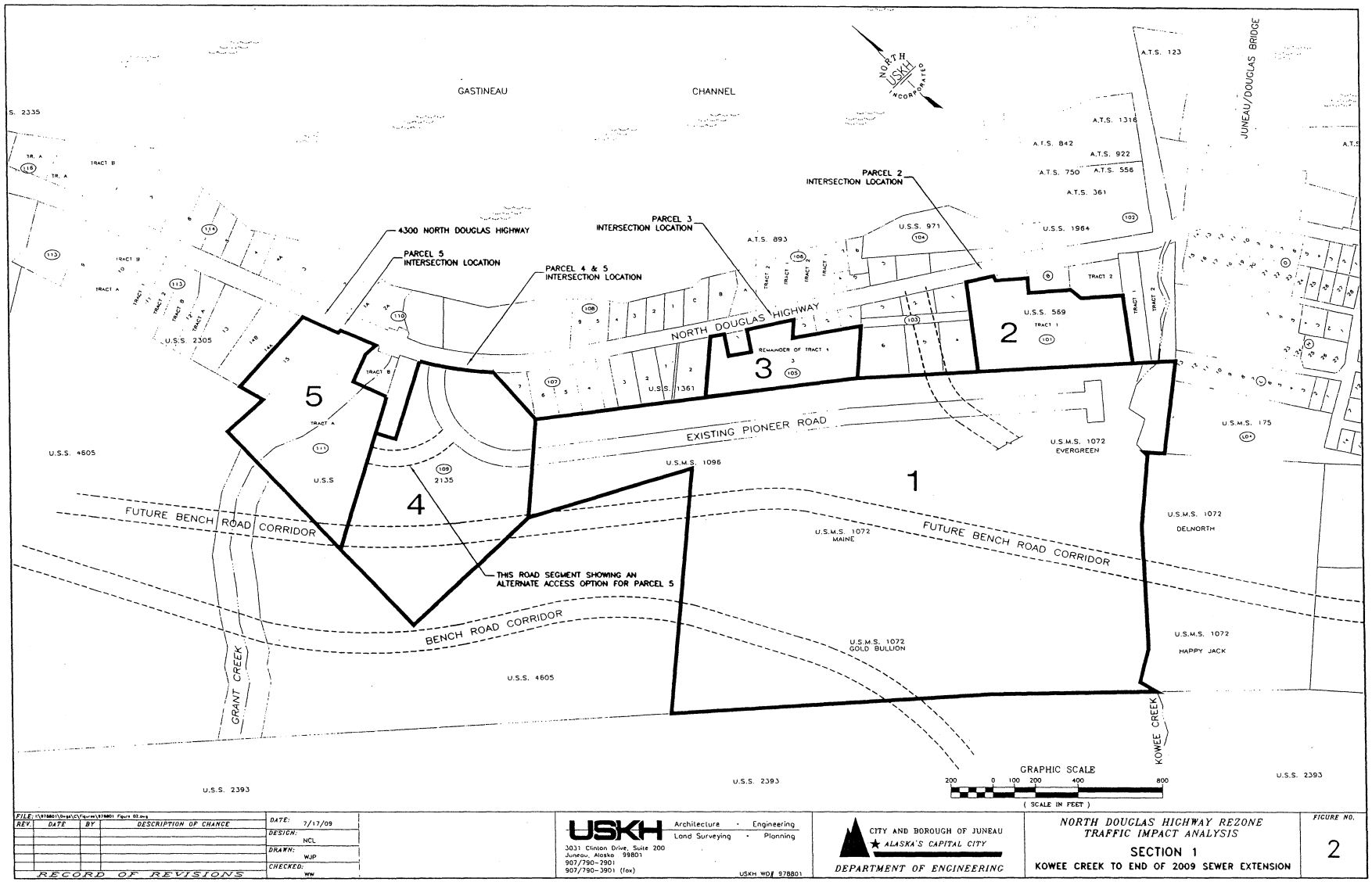
The upper portion of Parcel 1 may be very difficult to develop because of steep slopes and perched wetlands. Legal density for a given parcel is calculated on the basis of how much land is available *after the land needed for right-of-way (ROW) is deducted.* A rough layout of roads for Parcel 1 indicates that up to 8 acres of ROW would have to be dedicated. Rough development considerations that account for wetlands and steep slopes produce another 20-acre penalty leaving 58 acres for density calculation. This produces a development potential of 1,044 DUs if rezoned to D-18.

Parcel 2: 6 acres. Has direct adjacency with NDH. Moderate uphill slope with view potential. This parcel could be developed with a public street. Doing so would probably consume an acre, producing development potential of 90 units. The potential rises to 108 units if no public road is dedicated. There is a possibility that street development on Parcel 2 could be designed to facilitate access to USS 569, and lots 4, 5, and 6 to the west of Parcel 2, which are presently land locked. (There appears to be an unconnected section of ROW in front of these three lots and so there would be no ROW deduction penalty for the three.) Lot 5 presently has a duplex on it, accessed by a long driveway across the private land between it and NDH. Together, these three

lots comprise 148,104 square feet. At D-18, the three lots could host 61 DUs; a total of 151 units supplying traffic to the intersection location shown for Parcel 2.

Parcel 3: 4.23 acres. The parcel has two potential access locations to NDH. The arrow on the map points to an existing driveway. There is a 6,048 square foot building presently in use as a church. The property has a moderate uphill slope with view potential. The slope is too steep to allow convenient development with internal public streets, so the most likely high-density development scenario is as an apartment or condominium facility. At D-18, the parcel could host 76 DUs.


SECTION 3
SECTION 2
SECTION 1
NEILSON CREEK
BONNIE BRAE SUBDIVISION
NORTH DOUGLAS HIGHWAY
GASTINEAU CHANNEL
FALLS CREEK
EAGLE CREEK
GRANT CREEK
KOWEE CREEK
MIKE HATCH AUTO DEALERSHIP
4300 NORTH DOUGLAS HIGHWAY
JUNEAU/DOUGLAS BRIDGE
D1
D3
RR
RR(T)D3
D3(T)D18
D18
D5
NORTH
USKH INCORPORATED
GRAPHIC SCALE
1000 0 500 1000 2000 4000
(SCALE IN FEET)
FILE:
REV. DATE BY DESCRIPTION OF CHANGE
RECORD OF REVISIONS
DATE: 7/17/09
DESIGN: NCL
DRAWN: WJP
CHECKED: WW
USKH Architecture • Engineering
Land Surveying • Planning
1031 Clinton Drive, Suite 200
Juneau, Alaska 99801
907/790-2911
907/790-3911 (FAX)
USKH WO# 97880
CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING
NORTH DOUGLAS HIGHWAY REZONE
TRAFFIC IMPACT ANALYSIS
STUDY AREA MAP
FIGURE NO.
1


GASTINEAU CHANNEL
NORTH USKH INCORPORATED
JUNEAU/DOUGLAS BRIDGE
4300 NORTH DOUGLAS HIGHWAY
PARCEL 5 INTERSECTION LOCATION
PARCEL 4 & 5 INTERSECTION LOCATION
PARCEL 3 INTERSECTION LOCATION
PARCEL 2 INTERSECTION LOCATION
NORTH DOUGLAS HIGHWAY
EXISTING PIONEER ROAD
FUTURE BENCH ROAD CORRIDOR
BENCH ROAD CORRIDOR
THIS ROAD SEGMENT SHOWING AN ALTERNATE ACCESS OPTION FOR PARCEL 5
GRANT CREEK
KOWEE CREEK
1
2
3
4
5
GRAPHIC SCALE
(SCALE IN FEET)
RECORD OF REVISIONS
USKH Architecture · Engineering · Land Surveying · Planning
3031 Clinton Drive, Suite 200
Juneau, Alaska 99801
907/790-2901
907/790-3901 (fax)
USKH WO# 978801
CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING
NORTH DOUGLAS HIGHWAY REZONE
TRAFFIC IMPACT ANALYSIS
SECTION 1
KOWEE CREEK TO END OF 2009 SEWER EXTENSION
FIGURE NO. 2

Parcel 4: 17 acres. This parcel has an easy uphill slope and has been developed with the pioneer road leading to Parcel 1. If developed as shown, about an acre of land would be lost to ROW leaving 16 acres to calculate density. This would enable the parcel to host up to 288 dwelling units at D-18 zoning.

Parcel 5: 10.4 acres. The parcel also has an easy uphill slope. Present development planning shows a direct street intersection with NDH. That same planning has resulted in a trial road layout that would consume 1.4 acres of land, leaving 9 acres for density calculation. At D-18, the parcel could host 162 units.

Alternative for Parcels 4 and 5: There may be reluctance to have two public street intersections so close together; as would be the case if both Parcels 4 and 5 were developed independently. An option would be to extend access from Parcel 4 over to Parcel 5 uphill from NDH (see Figure 2). This additional length of road would deduct about nine units from the full build-out potential for Parcel 4. The result, however, would be a street intersection with NDH that supports traffic from Parcels 1, 4, and 5. At full build-out, this could be traffic from 1,485 dwelling units. By contrast, the Cordova Street intersection with Douglas Highway receives traffic from 390 dwelling units, (approximately 210 SF DUs and 180 apartment units.)

At present, it is expected that all of the land will convert to D-18. There are, however, options for lower-density zones such as D-15 and D-10. It is possible that the City could resort to lower-density zones as a compromise. Table 8 shows the development potential under each scenario.

Table 8 - Section One, Uphill Side, Development Potential Scenarios

Parcel	Usable Acres	No. DU @ D-10	No. DU @ D-15	No. DU @ D-18
1	58	580	870	1,044
2	6	60	90	108
3	4.23	42	63	76
4	16	160	240	288
5	9	90	135	162
Totals	77.53	932	1,398	1,678

2.5 Section Two: End of 2009 Sewer Extension to Bonnie Brae

The water side has a short multi-family area containing two mobile home parks and a small apartment building. These have been on private sewer for many years and were created long before the modern CBJ land use code. The arrival of public sewer would increase the development potential, but probably not by much since the mobile home units already cover most of the usable land. The apartment building could be enlarged somewhat but it sits on a very small parcel. Further out, there are 64 waterfront single-family parcels, of which only 5 are vacant. There is potential to add apartments to the single-family homes but otherwise there is just no meaningful amount of land to develop.

The uphill side has 74 parcels, of which 11 are vacant. Many are the result of "panhandle" subdivisions where a single, wide and deep parcel is cut into two lots, one behind the other and they share a single driveway for access to NDH. There are 34 lots configured this way, and an additional 21 that are large enough to divide as well. This produces the potential for 21 additional lots, most of which would be

large enough to host a duplex. That, plus the ability to add apartments and the vacant lots add up to a potential increase of 60 units over the next 20 years.

2.6 Section Three: Bonnie Brae-Subdivision and the Commercial Area on the Water Side

The water side is zoned Waterfront Commercial, a fairly limited category where most development must be related to the water in some way. Apartment buildings are not allowed, but hotels and motels are. Single-family homes and duplexes are allowed, as are subdivisions. The parcels are narrow and the residential road requirement discussed above would make subdividing for residential purposes very challenging. Finally, there are two large parcels. One is the ERA Helicopters base and they are not likely to be willing to redevelop their parcel. The other parcel is undeveloped, but its owners have been discussing commercial options with the CBJ.

The uphill side is Bonnie Brae subdivision, which contains 112 dwelling units, mostly in zero-lot line configurations, and 12 vacant lots. All of the vacant lots have the potential to add 2 units so there is an immediate opportunity to build 24 more units on lots that already have street frontage and utilities. Interestingly, there is a 98-acre parcel above Bonnie Brae that is left over from the original subdivision. Within this parcel is another 6.6-acre area designated as a park site and the CBJ is shown as a co-owner. The other 91.4 acres likely have some development potential but also contain a lot of forested wetlands and muskegs. Moreover, a new access route would most likely be required to connect the undeveloped area to NDH. The existing Bonnie Brae entrances might allow some modest development of the area immediately adjacent to the upper portion of Bonnie Brae, but not for the potentially hundreds of lots that could be created with road access. Absent a new road, there is probably potential for another 50 units.

2.7 Summary

The overall population and housing growth projections above estimate the demand for 3,717 new dwelling units over the next 20 years. The three sections of NDH under this analysis would be able to host nearly half of those. Absent some dramatic new availability of land, such as on West Douglas, there is every likelihood that the development predicted for North Douglas will occur.

Table 9 - Development Potential, Kowee Creek to Bonnie Brae					
		Existing DU	New DU Potential		
Section One	Water Side of NDH	27	20		
	Uphill Side of NDH	32	D-10	D-15	D-18
			580	870	1,044
			60	90	108
			42	63	76
			160	240	288
			90	135	162
Section Two	Water Side of NDH	115	20	20	20
	Uphill Side of NDH	63	60	60	60
Section Three	Water Side of NDH	2	10	10	10
	Bonnie Brae Sub.	112	74	74	74
	Totals	351	1,116	1,582	1,862

The CBJ Engineering Department issued a conceptual design and technical report for the North Douglas sewer project in 1998. This document presented a 30-year population forecast that coincides with the 20-year planning horizon for the re-zone study. The sewer study included nine zones, the first four of which include the re-zone study area limits. The sewer study provides estimates for the design year (2028) population and full build-out, or saturation, population. Table 10 summarizes developable land area, the potential mix of DU types, and population projections from the sewer study. The sewer study predicted a growth in housing units of 219 housing units from 1998 to 2028, and a saturation-level increase of 1393 housing units.

The growth of 1,116 to 1,862 housing units reported in this Development Projection Summary is more in line with the saturation projections than the 2028 forecast in the sewer report.

Table 10 - North Douglas Sewer - Growth Projection Summary							
Zone	Undeveloped Land (Acres)	Existing (1998)		Design (2028)		Saturation	
		DU	Population	DU	Population	DU	Population
1	214	80	223	112	312	510	1,564
2	145	48	260	133	370	297	860
3	264	87	242	119	332	328	947
4	150	81	226	151	421	554	1,567
Totals	773	296	951	515	1,435	1,689	4,938
Source: North Douglas Sewer Conceptual Design and Technical Report, CBJ Engineering Department, December 1985							

3 TRAFFIC ANALYSIS

This section describes existing traffic conditions, and projected traffic conditions in the year 2028 with the development of the NDH corridor area. It is organized into sections that describe: project trip generation and assignment; 2028 with-project volumes; and future LOS.

3.1 Trip Generation and Distribution

Trip generation for this project was based on the methodologies outlined in the Institute of Transportation Engineers (ITE) *Trip Generation Manual.* The ITE *Trip Generation Manual* is a nationally recognized and locally accepted method for estimating the travel characteristics of homes and businesses. Trip generation was determined by creating a composite trip generation rate based on the variety of possible developments that are expected to take place along NDH.

Table 11 below outlines the land uses that were used to calculate the composite trip generation rate.

Table 11- ITE Land Uses and Descriptions

Land Use	Description
210: Single-Family Detached Housing	All single-family detached homes on individual lots. Typical subdivision.
220: Apartment	Rental dwelling unit with at least three other dwelling units. Typical four-plex.
221: Low-Rise Apartment	Rental dwelling units located in rental buildings that have one or two levels.
223: Mid-Rise Apartment	Rental dwelling units located in rental buildings that have between three and ten levels.
230: Condo/Townhouse	Residential ownership units that have at least one other unit in the same building structure.
231: Low-Rise Condo/Townhouse	Residential units located in buildings with one or two levels.
270: Residential PUD	Residential planned urban development is a combination of residential land uses.

All land uses described in the Table 11 were used to determine two composite trip generation rates. Composite Rate A was based on land uses 210, 220, 221, and 270. This rate was then applied to all development proposed on the water side in Section One of NDH, all of Section Two and Section Three. Composite Rate B was based on land uses 220, 221, 223, 230, and 231. This rate was applied to all development proposed on the uphill side of NDH for Section One only. The trip generation rates equate trip generation to the number of dwelling units.

After the composite trip generation rates were calculated, they were applied to the projected number of new dwelling units described earlier in this report in Table 9. Trips for three different scenarios were calculated based on the different zoning options available, including: D-10, D-15, and D-18. The trips calculated for areas on the water and uphill sides of NDH were combined to determine the total new trip generation for both the AM and PM peak hour conditions.

A summary of trip generation projections for NDH is shown in the following tables for the weekday AM and PM peak hours. Table 12, Table 13, and Table 14 outline the trip generation for the D-10, D-15, and D-18 development scenarios, respectively.

Table 12 - Project Trip Generation, D-10 Zoning

	Dwelling Units	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Composite Rate A	184	23	80	103	85	45	129
Composite Rate B	932	102	342	444	339	199	539
Total							

Source: ITE Trip Generation Manual (8th Edition)

Table 13 - Project Trip Generation, D-15 Zoning

	Dwelling Units	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Composite Rate A	184	23	80	103	85	45	129
Composite Rate B	1,398	153	512	665	509	299	808
Total							

Source: ITE Trip Generation Manual (8th Edition)

Table 14 - Project Trip Generation, D-18 Zoning

	Dwelling Units	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Composite Rate A	184	23	80	103	85	45	129
Composite Rate B	1,678	184	615	799	611	359	970
Total							

Source: ITE Trip Generation Manual (8th Edition)

3.2 Trip Distribution and Forecast Traffic Volumes

Trip distributions from the proposed development were estimated based on existing turning movement distributions at the Douglas roundabout and at the 10th and Egan intersections. As such, 10 percent of project trips are expected to/from Douglas, thus traveling straight through the Douglas Highway/NDH roundabout. The remaining trips cross the bridge and diverge at the Egan Drive/10th Street intersection. At this point, 25 percent of total project trips are expected to/from the north on Egan Drive (toward the Mendenhall Valley), 5 percent to/from the east on 10th Street, and 60 percent to/from the south on Egan Drive (toward downtown).

Project trips were then assigned to the study area based on the distribution assumptions. Typically, a growth rate is applied to existing traffic and added to project generated trips. A growth rate was not used in this case because Juneau has not shown any significant traffic growth in the past several years. The project trip assignments were combined with existing traffic volumes for both the AM and PM peak hours.

3.3 Traffic Operations

Traffic conditions were evaluated for this study using the Level of Service (LOS) methodologies of the *Highway Capacity Manual* (Transportation Research Board, 2000). The *Highway Capacity Manual* (HCM) is a nationally recognized and locally accepted method of measuring traffic flow and congestion for intersections. Criteria range from LOS A, indicating free-flow conditions with minimal vehicle delays, to LOS F, indicating congestion with significant vehicle delays.

LOS for a signalized intersection is defined in terms of the average delay experienced by all vehicles at the intersection, typically over a specified time period such as a peak hour. Threshold values are listed in Table 15. LOS for roundabout intersections has not been defined by the HCM due to the variety of analysis methods available. However, the National Cooperative Highway Research Program (NCHRP) Report 572 recommends using stop controlled intersection criteria for roundabout LOS. These criteria are shown in Table 15 and are reported by approach. The differing LOS criteria reflect drivers' increased tolerance for delay at signalized intersections.

Table 15- Intersection Level of Service Criteria

Level of Service	Signalized Control Delay (sec/veh)	Roundabout Control Delay (sec/veh)	General Description
A	≤10	≤10	Free flow
B	>10 – 20	>10-15	Stable flow (slight delays)
C	>20 – 35	>15-25	Stable flow (acceptable delays)
D	>35 – 55	>25-35	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	>35-50	Unstable flow (intolerable delay)
F	> 80	>50	Forced flow (jammed)

Source: Highway Capacity Manual (TRB, 2000)

The Egan Drive and 10th Street intersection is a signalized intersection. The LOS was calculated using Synchro Version 7, Build 793 (Trafficware, 2007). This intersection analysis software tool is based on the methodologies of HCM 2000 and is accepted by DOT&PF. The Douglas roundabout intersection was analyzed using the methodologies presented in NCHRP 572, which is the DOT&PF preferred method. Roundabout delay and LOS are reported as a weighted average for the entire intersection, while the volume to capacity (v/c) ratio is reported for the approach with the highest v/c ratio. Signal statistics are reported as an average for the entire intersection.

3.3.1 Existing Conditions

Existing traffic operations were analyzed as a means of comparison again the trips generated by the development along NDH. Evaluations were conducted based upon existing road geometries and control data noted in the field. Table 16 and Table 17 provide summaries of existing LOS, average vehicle delays, and the v/c ratio.

Table 16- Existing Level of Service Summary – AM Peak Hour

Location	LOS[1]	Delay[2]	V/C[3]
Egan/10th	E	57.0	1.12
Douglas Hwy/NDH	B	12.5	0.77

1. LOS = level-of-service
2. Average control delay for intersection (sec/veh)
3. V/C = volume to capacity ratio

Table 17 - Existing Level of Service Summary – PM Peak Hour

Location	LOS[1]	Delay[2]	V/C[3]
Egan/10th	D	51.0	1.17
Douglas Hwy/NDH	A	8.4	0.65

1. LOS = level-of-service
2. Average control delay for intersection (sec/veh)
3. V/C = volume to capacity ratio

3.3.2 Future Conditions

The intersections were analyzed to evaluate traffic conditions and operations that include the proposed development, based on the forecasts described above. Table 18 and Table 19 provide a summary of the analyses for the AM and PM peak hours, respectively.

Table 18- Future Level of Service Summary – AM Peak Hour

Location	D-10 Development			D-15 Development			D-18 Development		
	LOS[1]	Delay[2]	V/C[3]	LOS	Delay	V/C	LOS	Delay	V/C
Egan/10th	F	103.1	1.30	F	125.9	1.50	F	361.9	3.11
Douglas Hwy/NDH	F	149.7	1.17	F	343.7	1.38	F	519.3	1.52

1. LOS = level-of-service
2. Average control delay for intersection (sec/veh)
3. V/C = volume to capacity ratio

Table 19- Future Level of Service Summary – PM Peak Hour									
Location	D-10 Development			D-15 Development			D-18 Development		
	LOS[1]	Delay[2]	V/C[3]	LOS	Delay	V/C	LOS	Delay	V/C
Egan/10th	F	184.4	2.18	F	244.6	2.58	F	361.9	3.11
Douglas Hwy/NDH	B	13.7	0.71	C	24.2	0.90	E	48.0	1.00

1. LOS = level-of-service
2. Average control delay for intersection (sec/veh)
3. V/C = volume to capacity ratio

Traffic Volumes at these two intersections are portrayed in Figures 3 through 6. AM and PM traffic volumes are shown for the existing conditions along with each of the different levels of development.

The intersections were also evaluated to estimate how much additional traffic could be added before the LOS was reduced to F. At Egan Drive/10th Street, the limiting time was the PM peak hour. The intersection would be able to accommodate an additional 517 entering vehicles before reaching LOS F during the PM peak hour, assuming the signal phase splits could be optimized for the traffic volumes. This corresponds to an additional 184 dwelling units at Composite Rate A plus an additional 666 dwelling units at Composite Rate B.

At the Douglas Highway/NDH roundabout, the AM peak hour was the limiting time, at which time the roundabout would be able to accommodate an additional 334 vehicles before reaching LOS F. This corresponds to an additional 184 dwelling units at Composite Rate A plus an additional 481 dwelling units at Composite Rate B. The Federal Highway Administration states that when v/c ratios on roundabout approaches exceed 0.85, operations tend to breakdown frequently and unpredictably. If the v/c ratio threshold is used to determine roundabout failure, only 126 additional AM peak hour vehicles could be added. This corresponds to an additional 184 dwelling units at Composite Rate A plus an additional 48 dwelling units at Composite Rate B.

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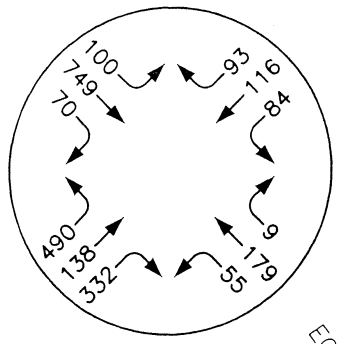
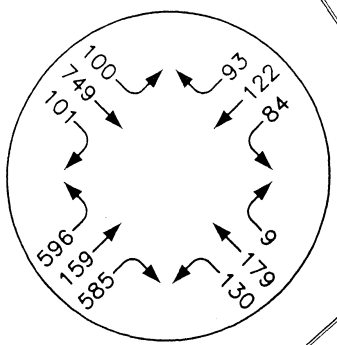
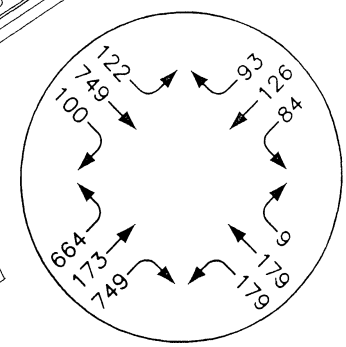


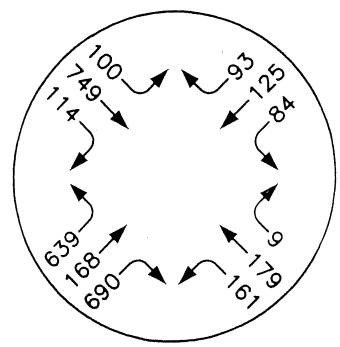
EXISTING



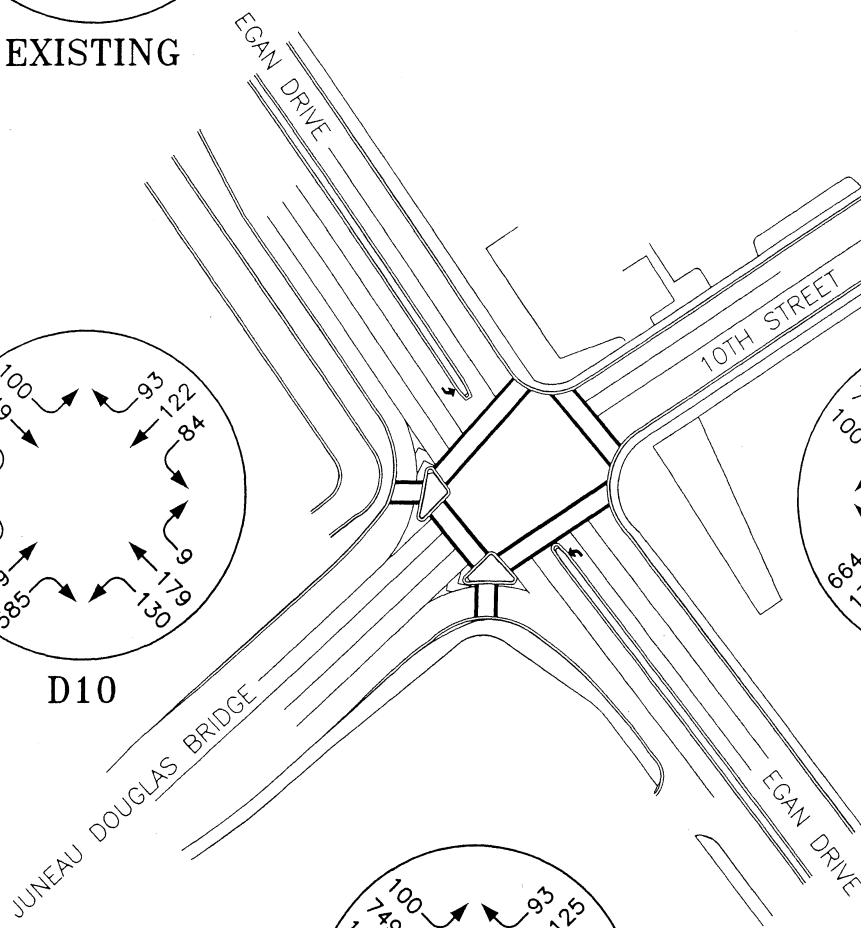
D10



D18



D15



USKH Architecture • Engineering Land Surveying • Planning	CITY AND BOROUGH OF JUNEAU ★ ALASKA'S CAPITAL CITY DEPARTMENT OF ENGINEERING	PROJECT: NORTH DOUGLAS HIGHWAY REZONE TRAFFIC IMPACT ANALYSIS	FIGURE NO. 3
		TITLE: AM VOLUME DATA FOR 10TH STREET & EGAN DRIVE	
		CLIENT: CITY & BOROUGH OF JUNEAU	

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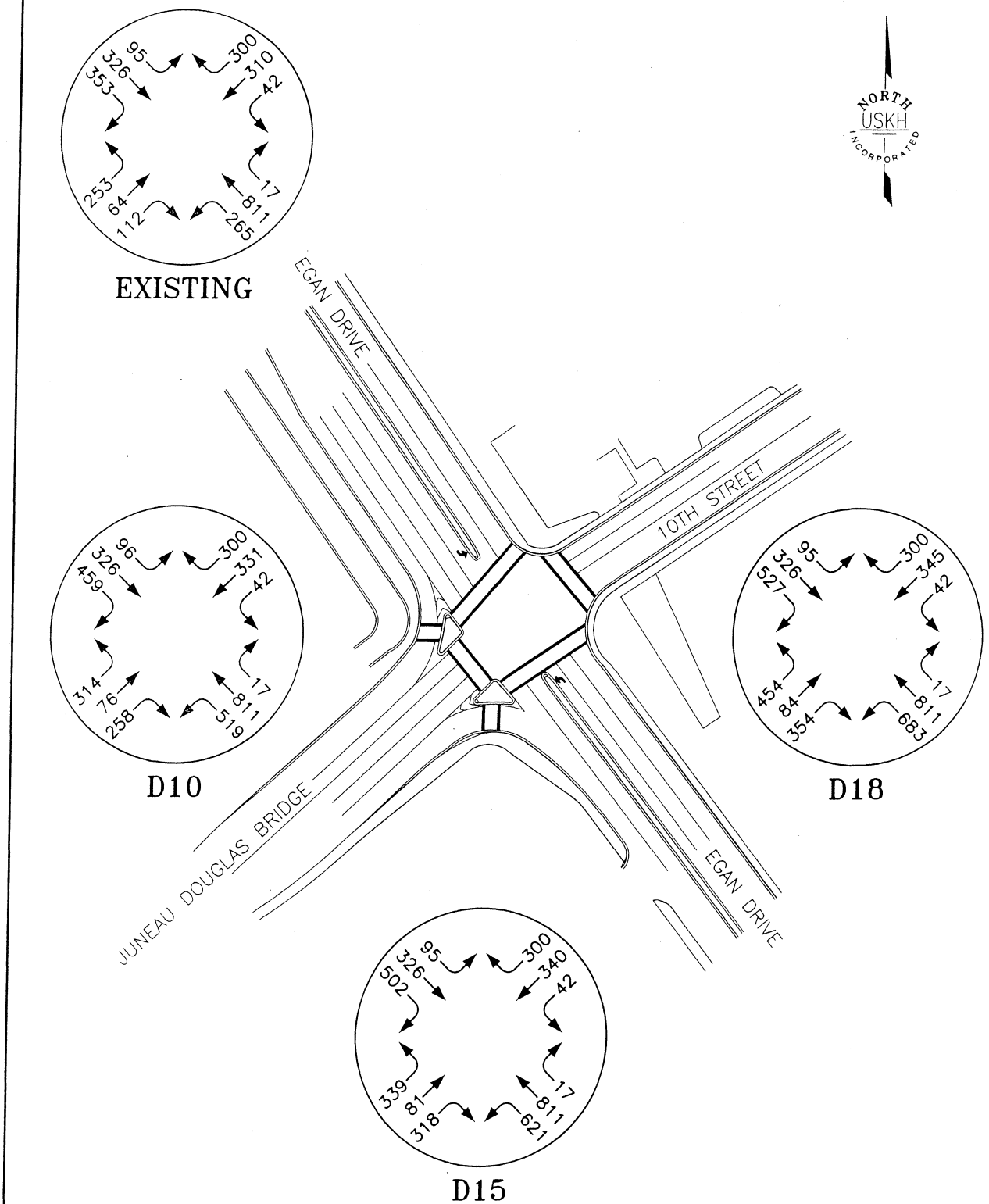

USKH Architecture • Engineering Land Surveying • Planning	CITY AND BOROUGH OF JUNEAU ★ ALASKA'S CAPITAL CITY DEPARTMENT OF ENGINEERING	PROJECT: NORTH DOUGLAS HIGHWAY REZONE TRAFFIC IMPACT ANALYSIS	FIGURE NO. 4
		TITLE: PM VOLUME DATA FOR 10TH STREET & EGAN DRIVE	
		CLIENT: CITY & BOROUGH OF JUNEAU	

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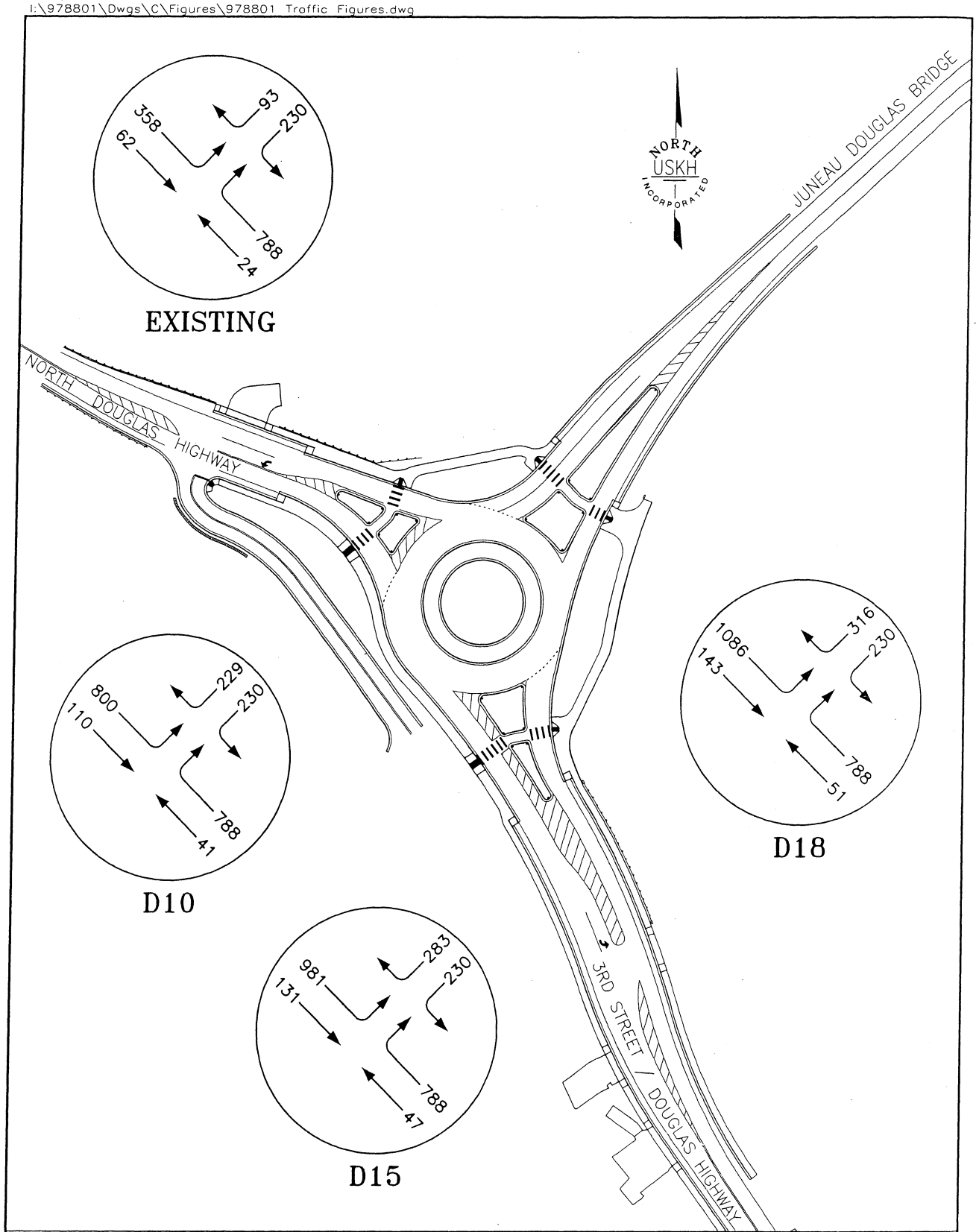

USKH Architecture • Engineering Land Surveying • Planning	CITY AND BOROUGH OF JUNEAU ★ ALASKA'S CAPITAL CITY DEPARTMENT OF ENGINEERING	PROJECT: NORTH DOUGLAS HIGHWAY REZONE TRAFFIC IMPACT ANALYSIS	FIGURE NO. 5
		TITLE: AM VOLUME DATA FOR THE DOUGLAS ROUNDABOUT	
		CLIENT: CITY & BOROUGH OF JUNEAU	

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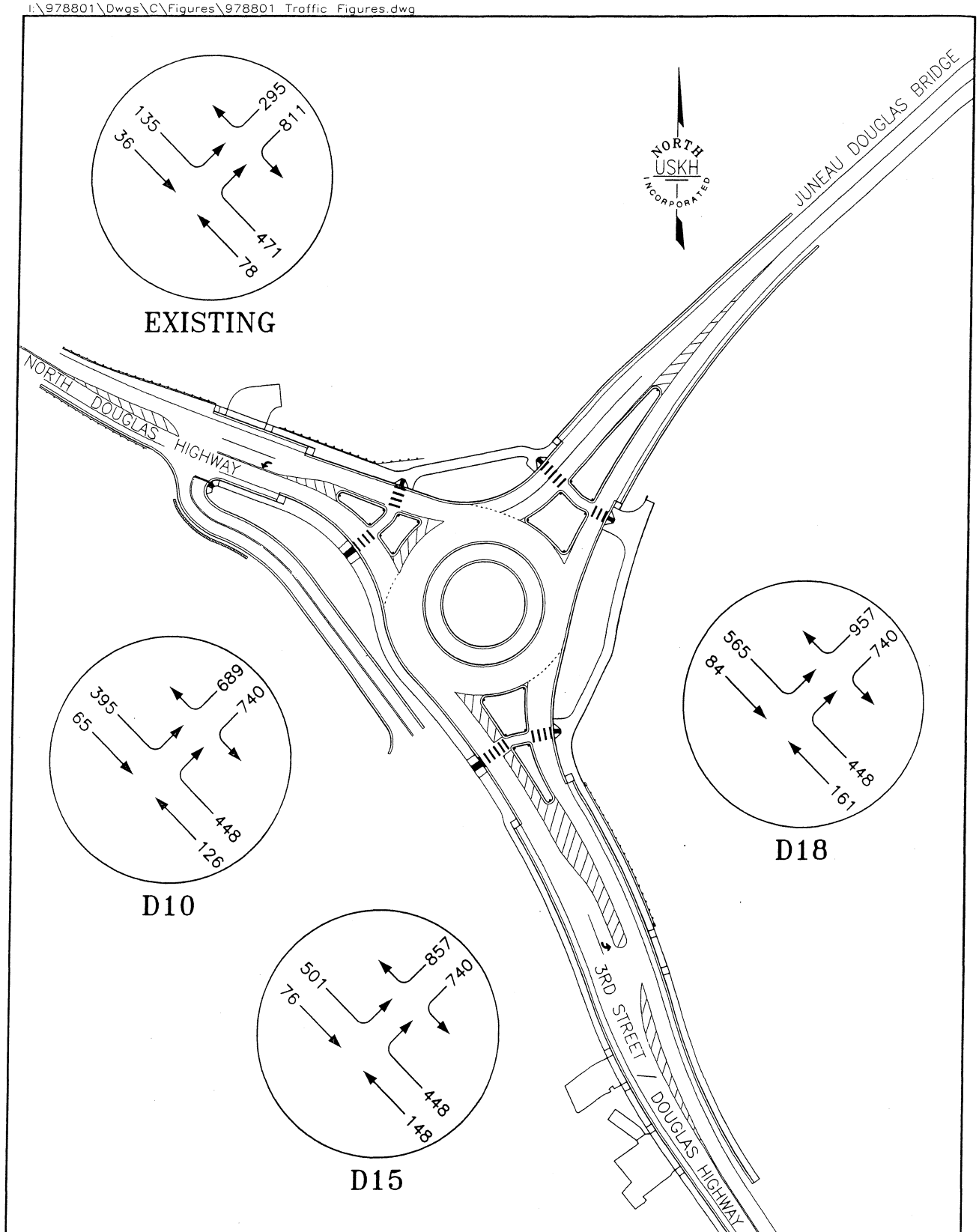


USKH Architecture • Engineering Land Surveying • Planning	CITY AND BOROUGH OF JUNEAU ★ ALASKA'S CAPITAL CITY DEPARTMENT OF ENGINEERING	PROJECT: NORTH DOUGLAS HIGHWAY REZONE TRAFFIC IMPACT ANALYSIS	FIGURE NO. 6
		TITLE: PM VOLUME DATA FOR THE DOUGLAS ROUNDABOUT	
		CLIENT: CITY & BOROUGH OF JUNEAU	

3.4 Access Road Intersections

The access road schemes for future development along the NDH corridor have not been established at this time. Driveways and access roads connecting to NDH will be subject to the DOT&PF driveway permit process. In general, access points for new developments should be aggregated to the extent feasible, and access roads should be spaced at least one quarter mile from adjacent access roads.

The need for auxiliary lanes at access road intersections will depend on the traffic demands at the intersection, both turning onto the access road and continuing through the intersection on NDH. The following figures from NCHRP 457 give guidance on what traffic thresholds justify adding auxiliary turn bays onto NDH. Figure 7 applies for left-turn lanes and Figure 8 is applicable to right-turn lanes. It will be the responsibility of the developer to determine what, if any, auxiliary lanes are necessary on the access roads.

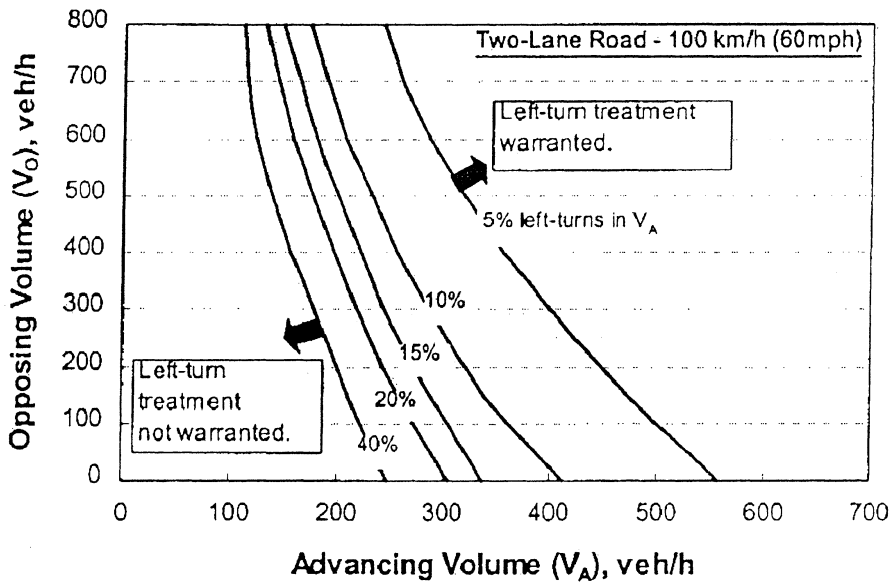


Figure 7 Left-Turn Lane Thresholds

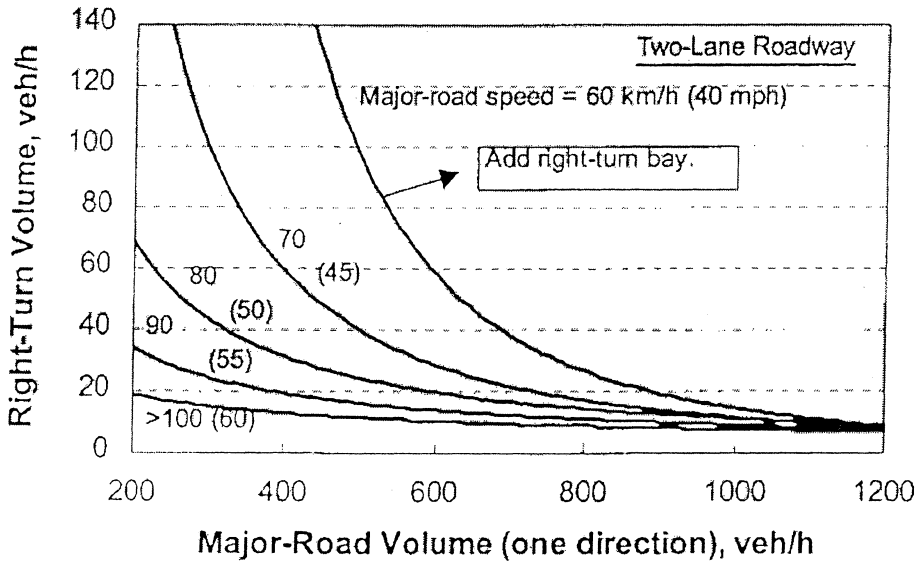


Figure 8 Right-Turn Lane Thresholds

3.5 Pedestrian and Bicycle Facilities

This segment of North Douglas Highway has 12-foot traffic lanes and 6- to 8-foot shoulders. Commuter bicycle traffic may use the traffic lanes or shoulders. The shoulders provide for other non-motorized traffic. In the 5-year time period analyzed in Section 2.6, only one collision involving non-motorized traffic has occurred. In May 2004 a vehicle collided with a pedestrian near 1.3 Mile causing a minor injury. The collision occurred during daylight hours on a straight and dry section of highway; inadequate pedestrian facilities do not appear to have been a factor.

Shoulder widths should be maintained when adding or improving access points along the highway. If auxiliary lanes are warranted, maintaining current lane and shoulder widths will help maintain a safe environment for non-motorized use.

3.6 Accident Analysis

DOT&PF analyzed safety at the intersections of Egan Drive and 10th Street and Douglas Highway and NDH and published the results in a Preliminary Engineering Report in December 2002. The analysis concluded that both intersections warranted safety improvements. DOT&PF constructed the roundabout at the Douglas Highway and NDH intersection to address capacity and safety in 2006. Recommended improvements at Egan Drive and 10th Street have not been constructed. DOT&PF has not recently studied collisions at these two intersections, but since traffic volumes have not increased, anecdotal evidence suggests no significant changes in safety conditions at the Egan Drive and 10th Street intersection, and improved safety at the Douglas roundabout.

DOT&PF provided collision statistics for NDH north of the roundabout for 2003 through 2007. A total of 37 collisions were reported within the limits of this study. No collisions resulted in fatalities, 3 caused

an incapacitating injury, 12 caused only non-incapacitating or possible injuries, and 22 resulted only in property damage. The tables below summarize the number of collisions by date, location and type.

Table 20 - Collisions by Year	
Year	**No.**
2003	12
2004	7
2005	5
2006	6
2007	7
Total	37

Table 21 - Collisions by Location	
Milepoint Range	**No.**
0 - 0.5	7
0.5 - 1	5
1 - 1.5	8
1.5 - 2	6
2 - 2.5	2
2.5 - 3	4
3 - 3.3	5
Total	37

Table 22 - Collisions by Type	
Type	**No.**
Rear End	8
Angle	9
Pedestrian	1
Parked Vehicle	1
Intersection/Driveway	15
Single Vehicle	17
Multiple Vehicle	20

The collision history shows a pattern of accidents at intersections and driveways, which is typical of high-speed highways with many access points. The rate of accidents is not high, but adding driveways along NDH is likely to increase that rate. To the extent possible, new development should use existing access points. New and improved access points should meet DOT&PF intersection and driveway design standards. Auxiliary lanes, if warranted (Section 2.4), should be used.

3.7 Traffic Impact Mitigation

Full development at any of the three housing mix scenarios presented in Chapter 1 would eventually result in LOS levels at Egan Drive and 10th Street that fall below minimum LOS standards. However, this development will occur over time and the re-zoning action in and of itself does not generate traffic. The re-zoning action will not require traffic impact mitigation. This report identifies the likelihood of decreased LOS at the critical intersections analyzed in this study as development occurs along NDH.

4 CONCLUSIONS

The development of land along NDH has the potential to accommodate much of Juneau's population growth for the next 20 years. The traffic generated by this development will negatively impact the LOS at the Douglas roundabout and the intersection of Egan Drive and 10th Street. Eventually, improvements to these intersections may be warranted to allow this growth to occur. Mitigation of impacts to pedestrian and bicycle facilities and safety are not likely to be warranted.

The re-zoning action will not cause impacts to traffic, but does increase the opportunity and potential for growth in the study area. Mitigation of these future impacts is not required for the rezoning action. As the development occurs over time, the impacts are projected to increase to the point that improvements at the subject intersections will be necessary.

MEMORANDUM

CITY & BOROUGH OF JUNEAU
155 South Seward Street, Juneau, Alaska 99801

TO: Beth McKibben, Senior Planner
Community Development Department

DATE: September 10, 2009

FROM: Rorie Watt, P.E., Director
Engineering Department

RE: North Douglas TIA Comments

Attached is the North Douglas TIA

I have the following general comments to offer:

1. All properties served with water and sewer between the bridge and Bonnie Brae should be zoned to a minimum of D-5. Attached is an excerpt from CBJ code (49.25.210) on this issue. By City code, lands within the urban service boundary that are served with water and sewer should be zoned a minimum of D-5.
2. Increasing zoning density for areas served with sewer is further supported by the costs of owning and maintaining a municipal sewer system. North Douglas has a "two pipe system" with gravity collectors in the highway and the beach. In this manner, we have served virtually all of the properties with gravity systems. By constructing the system in this manner (nearly doubling the infrastructure), we have also increased our maintenance costs. Simply put, our rate structure can't support our maintenance efforts with a dispersed customer base in low zoning districts.
3. Zoning changes will not impact traffic levels of service, but development will. It is not realistic to implement traffic improvements prior to implementing the zone changes.
4. When they develop, private developers may be required to make some traffic improvements (primarily at the intersections of their developments and North Douglas Highway).
5. Depending on our prediction of growth in the community, during the STIP process, CBJ should prioritize and recommend improvements to the State facilities (10^{th}/Egan, Roundabout, North Douglas Highway). There appears to be sufficient time for DOT to program these improvements.

Let met know if you have any questions. Thanks.

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

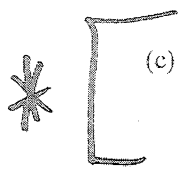
The RR, rural reserve zoning district, is intended for lands primarily in public ownership managed for the conservation and development of natural resources and for future community growth. In addition, recreation cabins, lodges and small seasonal recreational facilities may be allowed.
(Serial No. 87-49, § 2, 1987)

49.25.210 Residential districts.

The following districts are established to provide a healthy, safe and pleasant environment for residential living protected from incompatible and disruptive activities:

(a) The D-1, residential district, is intended to accommodate primarily single-family and duplex residential development in areas outside the urban service boundary at a density of one dwelling unit per acre. Certain D-1 zoned lands, however, may exist within the urban service boundary in transition areas if public sewer or water are absent but planned for. The D-1 classification will be changed to a higher density upon provision of services.

(b) The D-3, residential district, is intended to accommodate primarily single-family and duplex residential development at a density of three dwelling units per acre. D-3 zoned lands are primarily located outside the urban service boundary where public utilities are not provided. The density reflects the existing pattern of development of properties in the district. There is a limited amount of D-3 zoned lands located within the urban service boundary. These are lands for which a lower density is deemed appropriate or, in the case of transition zones, where the zoning will be changed to a higher density when sewer and water are provided.



(c) The D-5, residential district, is intended to accommodate primarily single-family and duplex residential development at a density of five dwelling units per acre. D-5 zoned lands are located in the urban service boundary and are served or can be served by public water and sewer.

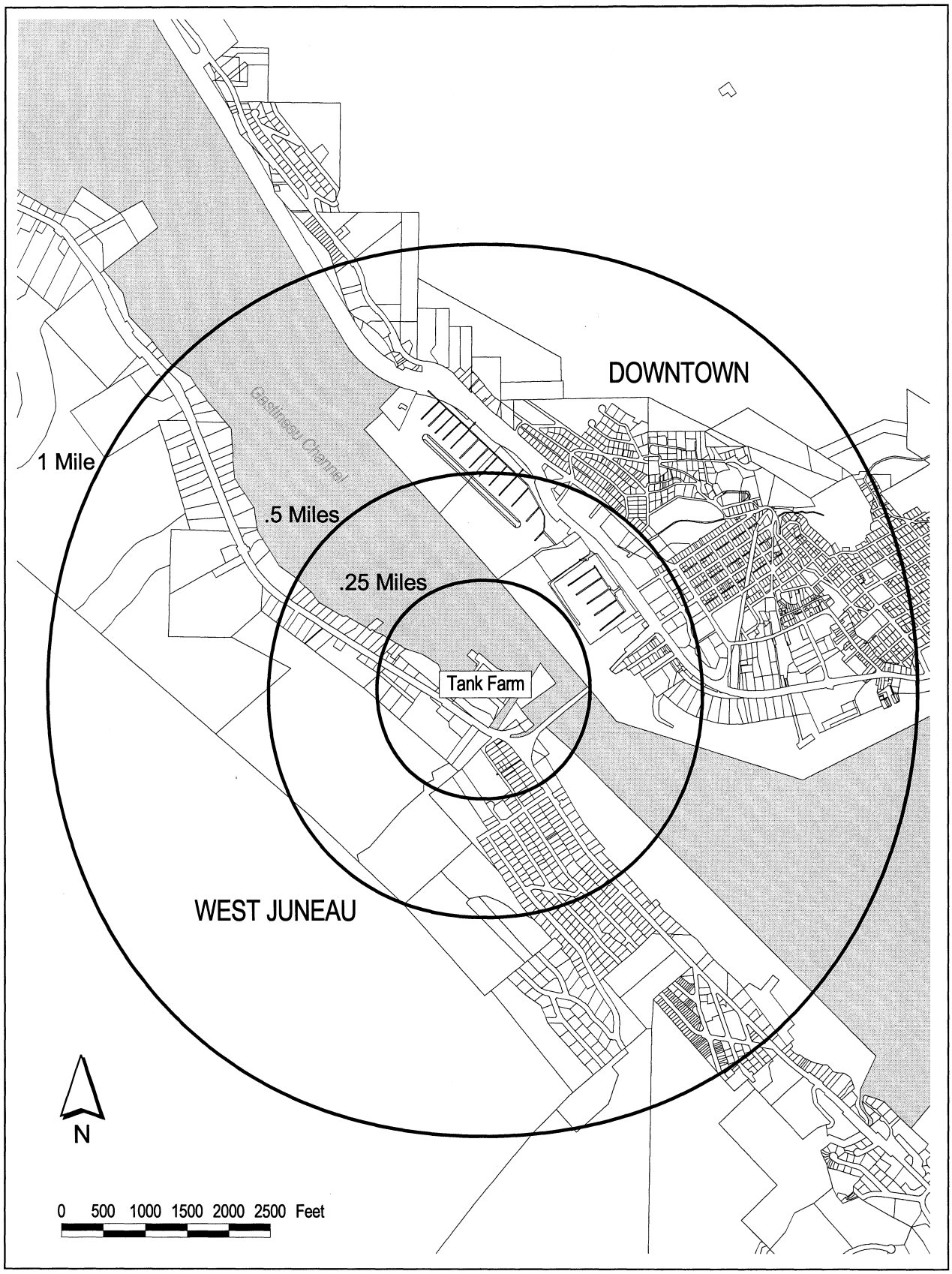
(d) The D-10 SF, residential district, is intended to accommodate primarily single-family residential development at a density of ten dwelling units per acre. This is the highest-density single-family residential district.

(e) The D-10 and D-15, residential districts, are intended to accommodate primarily multifamily residential development at ten and 15 units per acre respectively. These are relatively low-density multifamily districts.

(f) The D-18, residential district, is intended to accommodate primarily multifamily development at a density of 18 dwelling units per acre. This is a high density multifamily zoning district intended to accommodate midrise-type development.
(Serial No. 87-49, § 2, 1987; Serial No. 2007-39, § 7, 6-25-2007)

49.25.220 Mixed use districts.

The mixed use and mixed use 2 districts are established to accommodate a mix of appropriate commercial and residential uses.



ATTACHMENT E

Beth McKibben

From: Dan Jager
Sent: Wednesday, December 02, 2009 12:20 PM
To: Beth McKibben
Subject: RE: tank map

Hi Beth, I looked this over and do not see any issues as far as fire dep't. Items. Thank you for the opportunity to comment. Sorry for any delays for your report. Let me know if you need anything else.
Dan

Daniel M. Jager
Fire Marshal
Capital City Fire/Rescue
820 Glacier Avenue
Juneau, Ak 99801
907-586-0260
(Fax) 907-586-8323

From: Beth McKibben
Sent: Tuesday, December 01, 2009 4:46 PM
To: Dan Jager
Subject: FW: tank map

Dan -could you please take a peak at this map. I'm looking at a rezone request along N Douglas. This map shows distances from the Petro Marine Tank Farm. One site looking to be rezoned is w/in 1/4 mile, 2 w/in 1/2 mile and 2 w/in 1 mile.

The Tank Farm CUP has the following condition attached.

USE2004-35
16. The Conditional Use Permit (CUP) is for a term of ten years commencing with the issue date of the tank farm's occupancy permit or passage of final engineering inspection. The CUP has an automatic right of renewal for an additional ten years if at the end of the first ten year period, the Planning Commission determines that there are no changes in circumstances that substantially increase the fire safety risk, or other concerns under the jurisdiction of the commission, to the property or surrounding area. The CUP holder shall provide such information as the commission may require to assist it in its determination. (Approved July 27, 2004) Thereafter, extensions of the CUP shall be for increments of no more than five years and shall require commission review before the granting or denying of any additional term. CBJ staff shall provide the commission with a cost/benefit analysis of the tank farm owner/operator meeting current code requirements and regulations on new tank farm development.

Rezoning to the requested D-18 increases the development potential from 2 dwellings per acre to 18. The total area of the requested rezone is 125 acres....which leads to the potential of many many more housing units.

Any thoughts/comments? Thanks

Beth McKibben
Senior Planner, CDD
City & Borough of Juneau
(907)586-0465 phone
(907)5863365 FAX

Beth McKibben

From: Epstein, David B (DOT) [david.epstein@alaska.gov]
Sent: Wednesday, November 18, 2009 2:05 PM
To: Beth McKibben
Subject: RE: Review requested MAP2008-00003 and MAP2008-00004

Beth,

Thank you for the submittal.

Traffic impact analyses (TIA's) are reviewed by DOT&PF in conjunction with the driveway permitting process. We will reserve our comments until that time. In the interim, any CBJ development permits pertaining to this development should be conditioned upon DOT&PF review and approval of the TIA and driveway permit.

I called you to explain this and guess I was too long-winded because the voice mail machine timed me out. If you wish to discuss this further please call me at 465-4483.

Thank you,

David Epstein

From: Beth McKibben [mailto:Beth_McKibben@ci.juneau.ak.us]
Sent: Wednesday, November 18, 2009 11:50 AM
To: Dan Jager; Epstein, David B (DOT); Debra Purves; Eric Eriksen, AEL&P; Thorsteinson, Fredrik J (DOT); Greg Browning; Heather Holman, JCVB; Timothy, Jackie L (DFG); Jennifer Berger; Joe Buck; Joe Myers; John Leeds, Army Corps or Engineers; Marc Matsil; Eberhardt, Michael W (DNR); Mike Scott; Monty Williams, ACS; Peggy Cowan, CBJ School District; Richard Enriquez, US Fish & Wildlife; Wanstall, Sally S (DEC); Scott Jeffers; Steve Brockmann, US Fish & Wildlife; Susan Walker, NOAA; Ted Anderson; Lawson, Thomas W (DFG); Tom Trego; Valerie Kelton; Groom, William M (DNR)
Cc: Charlie Ford; Ron King
Subject: Review requested MAP2008-00003 and MAP2008-00004

Please review the attached information and provide any comments you may have no later than Dec 3.

Request to rezone 5 sites from D-3 to D-18.

Beth McKibben
Senior Planner, CDD
City & Borough of Juneau
(907)586-0465 phone
(907)5863365 FAX

Beth McKibben

From: Heather Hardcastle [salmongal@mac.com]
Sent: Monday, November 30, 2009 8:53 PM
To: Beth McKibben
Cc: Kirk Hardcastle; Heather Hardcastle
Subject: Questions Re: Rezone Proposal (USS 2135 TR I TR A)

Hi Beth,

My husband and I live at 4275 North Douglas Hwy., on USS 2135 TR I TR B. The land directly adjacent to our property and above our property is owned by Tigar Properties (based in Corona, CA), we believe. We plan to express our non-support of the proposal to rezone this parcel (USS 2135 TR I TR A) from D-3 to D-18 by written testimony as well as by oral testimony.

To clarify, USS 2135 TR I TR A is currently zoned D-3 and as Urban Low Density Residential, right? Does this zoning mean that up to 3 "units" per acre are allowable on this parcel, and that a rezoning to D-18 would then allow up to 18 units per acre (and a reclassification as Urban Medium Density Residential)? Additionally, can these "units" be single-family homes, duplexes, zero-lot lines and/or mobile homes? And, if this land parcel is successfully rezoned to D-18, is the construction of this many units allowable because the municipal sewer lines now reach this land?

Finally, I noticed the letters "CA" on the CBJ Comprehensive Plan seem to refer to our property, as well as to USS 2135 TR I TR A (both of which are adjacent to two stems of Grant Creek). To what does this "CA" refer?

Thank you for your help, Beth.

Best regards,
Heather & Kirk Hardcastle
(907) 209-8486

Miriah Peterson

From: Heather Hardcastle [salmongal@mac.com]
Sent: Tuesday, December 01, 2009 11:26 PM
To: PC_Comments
Cc: Heather Hardcastle; Kirk Hardcastle; Sheila Peterson; Len Peterson; mark_stopha@yahoo.com
Subject: Written Testimony Re: Rezone Proposal, N. Douglas Hwy.

Dear CBJ Planning Commission,

We, Heather and Kirk Hardcastle, live at 4275 North Douglas Highway., on USS 2135 TR I TR B. We understand that the land directly adjacent to our property and above our property is owned by Tigar Properties that is based in Corona, California. We *do not* support the current proposal to rezone these parcels (USS 2135 TR II & USS 2135 TR I TR A) from D-3 to D-18.

USS 2135 TR II and USS 2135 TR I TR A are currently zoned D-3 and as "Urban Low Density Residential" in the City and Borough of Juneau Comprehensive Plan We understand that this zoning means that up to 3 "units" per acre are allowable on these parcels, and that a rezoning to D-18 would then permit up to 18 units per acre (and a reclassification as "Urban Medium Density Residential"). Additionally, we understand that these "units" can be single-family homes, duplexes, zero-lot lines and/or mobile homes. We have not yet heard an answer from Ms. Beth McKibben as to what the letters "CA" on our property and on on USS 2135 TR II and 2135 TR I TR A refer in the the CBJ Comprehensive Plan.

When we purchased our home on USS 2135 TR I TR B almost two years ago, we understood that the lands adjacent to our property were for sale, and that Tigar Properties planned to build several homes on this land when the municipal sewer lines were installed to serve this region. However, we certainly did not expect that USS 2135 TR II and USS 2135 TR I TR A would be potentially rezoned so as to allow up to eighteen dwellings per acre (instead of a maximum of six units per acre that are currently allowed on properties zoned as "Urban Low Density Residential")!?

We know this "medium density" development would entail the clear-cutting of the large Sitka spruce and hemlock trees on this land. We are dismayed to think of the habitat loss for bald eagles, ravens, a myriad of songbirds, porcupines, black bears and Sitka black-tailed deer that the construction of so many units on USS 2135 TR II and USS 2135 TR I TR A would assuredly mean. We regularly see the above animals virtually year-round on our property, after these critters have already traveled through land parcels adjacent to our property. In fact, throughout Spring and Summer 2009, we repeatedly saw bald eagles holding sticks and grasses fly over our home to trees just behind our property. We believe there is a bald eagle nesting tree very close to us--and likely on USS 2135 TR II or on USS 2135 TR I TR A. Moreover, two tributaries of sizable Grant Creek flow through USS 2135 TR II, USS 2135 TR I TR A and USS 2135 TR I TR B; we do not want to see the quality and the lushness of the riparian habitat along Grant Creek compromised by the larger-scale development that a zone change to D-18 would allow.

Finally, we feel that rezoning the parcels surrounding our property to allow the construction of so many units would unfairly devalue the land and home we currently own. We urge you to consider the wild nature of the land parcels along North Douglas Highway that are currently being considered for rezoning, as well as the value of the existing homes adjacent to these parcels. We ask that you to retain the zoning classification of "Urban Low Density Residential" for these parcels along North Douglas Highway, and for USS 2135 TR II and USS 2135 TR I TR A, in particular.

Thank you for your consideration.

Warm regards,
Heather & Kirk Hardcastle
4275 North Douglas Hwy.
Juneau, AK 99801
salmongal@mac.com & salmonguy@mac.com
H: (907) 209-8486
K: (907) 209-8424

Miriah Peterson

From: Mark Stopha [mark_stopha@yahoo.com]
Sent: Wednesday, December 02, 2009 8:24 AM
To: PC_Comments
Subject: Comments on North Douglas D3 to D18 rezoning

Dear CBJ Planning Commission,

I, Mark Stopha, live at 4455 North Douglas Highway. We do not support the current proposal to rezone these parcels (USS 2135 TR II & USS 2135 TR I TR A) from D-3 to D-18 without some explicit requirements.

Previously, land in this upper area of this stretch of N. Douglas was allowed to be developed without permits, and the residents of the yellow house on the uphill side (about the third house from the bridge), along with the neighboring house north of it, were flooded after the permit-less deforestation occurred. I believe the developer was merely issued a small fine, with no restitution paid to these homeowners, or any other that may have been impacted. These homeowners, who by the fact that their homes were already in place, had paid property taxes for years to CBJ, only to see the city ignore the impacts to their houses by the new development.

The downhill residents of this rezoning should be given consideration on the development, with specific guidelines that must be met, with specific assurances that they are met. For example, runoff should be measured before construction, so that future negative impacts to downhill homes from the project can be assessed. Furthermore, there are likely bald eagle nests in the immediate area. I regularly hunt behind my house in the area, and while I do not know the specific trees the eagles nest in, I can hear the regular screeching all summer.

Finally, is the road rated for so much increased use in this area? Residents further out North Douglas were successful in stopping consideration of the fishery center out there due to the road, and this new development should also be given the same consideration.

Thank you for your consideration.

Warm regards,
Mark Stopha
4455 North Douglas Hwy.
Juneau, AK 99801
(907) 463-3115
-
Mark Stopha
Alaska Wild Salmon Company
4455 N. Douglas Hwy
Juneau, AK 99801
907-463-3115
www.GoodSalmon.com

ATTACHMENT I

Beth McKibben

From: Craig Mapes [mapescr@gmail.com]
Sent: Tuesday, December 01, 2009 9:28 PM
To: Beth McKibben
Subject: Public Hearing D-3 to D-18 Comments

Beth,

Is it still possible to get these comments to the Planning Commision hearing scheduled for Dec 8th?

Here are our comments to the Planning Commision concerning the zone change requests by Murray Walsh and Square Knot Deveopment LLC:

1. Note that these two zoning requests compose approximately 125 acres. We recommend that only a portion of the acerage be converted to D-18 with most of the property being left D-3 or D-5 which is more in character for the existing development on N. Douglas.

2. Prior to changing this land designation the Planning Commision needs to require the property owners to have detailed plans on how the land is going to be developed. Specifically how many units will be built, how the development will effect traffic on N. Douglas, how will the development effect runoff to those property owners below and what assurances will be required such that proper drainage and green belts are included in any developments.

3. Concerning the runoff we would like to point out that the area is so prone to erossion issues that when a road was put into the area in the recent past, the increase in runoff washed out a neighbors house causing over $100,000 in damage. Futher development would certainly put downhill property owners at risk of damage if the City does not require adequate planning to mitigate these issues before granting a zoning change.

4. If the entire acerage were converted to D-18 and only half of the land was developed it would add an additional 1,100 units. Assuming an average estimate of 2 cars per household this would add over 2,000 vehicles to a two lane highway that is already difficult to pull out on due to the current traffic volume. How will this increase in traffic be managed safely?

It is our hope that the Planning Commission will put reasonable development parameters in place prior to converting such a large tract of land from one of the least dense residential zones (D-3) to the most dense zoning allowed in the bourough (D-18)

Sincerely,

Craig Mapes
Kathleen Wiest

3819 N Douglas Hwy
Juneau, Alaska

Permit No. 34166

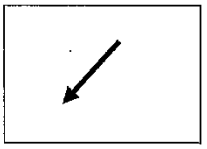
State of Alaska
Department of Transportation and Public Facilities
Driveway and Approach Road Permit

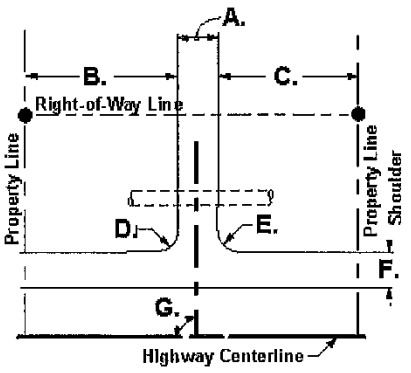
This Construction Approval allows the permittee to construct and maintain an approach road within a State-owned highway Right of Way. This is not a Permit until it has been inspected and signed off by the Department.

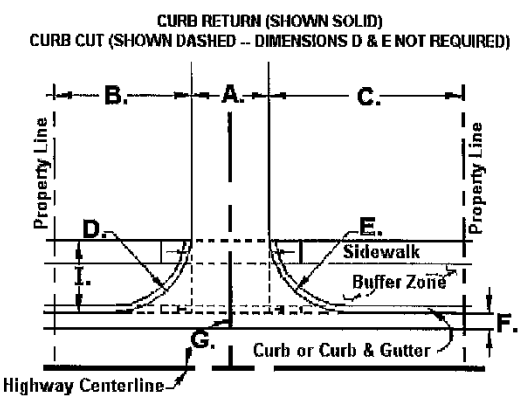
[ ] Residential/Private [X] Commercial [ ] Government Agency		
Permittee:	**Tlingit Haida Regional Housing Authority**	
Mailing Address:	5446 Jenkins Drive Juneau, Alaska 99801	
Contact Name:	Lorraine DeAsis	
E-mail Address:	ldeasis@thra.org	
Phone:	(907) 780-6868 Fax: _____	
Approach Road location (highway, subdivision, legal description milepost, etc.) The proposed approach road is an existing driveway to a logging road on the southwest side of North Douglas Highway. This logging road will be repurposed for one phase of a THRHA subdivision.		
Proposed or Existing: **EXISTING**		Anticipated Completion Date: 04/01/2026
Number of lots served: 44		Max. number of vehicles in any 1 hour: 88
Zoning Designation: D18		Proposed Land Use: Subdivision

Driveway Specifications

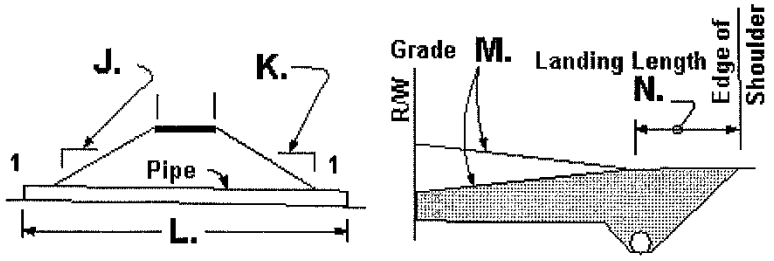
Direction of North in relation to the drawing.







A.	Driveway width	22	feet
B.	Left edge clearance	112	feet
C.	Right edge clearance	125	feet
D.	Left return radius	25	feet
E.	Right return radius	25	feet
F.	Shoulder width	1	feet
G.	Approach angle	90	degrees
H.	Curb type	Curb cut with buffer zone	
I.	Curb to sidewalk distance		feet



J.	Left driveway foreslope	6	:1
K.	Right driveway foreslope	6	:1
L.	Culvert length	72	Feet
M.	Landing grade	2	Percent
N.	Landing length	30	Feet
O.	Culvert size	18	inches
P.	Culvert type	Corrugated Metal Pipe (CMP)	
Q.	Ditch depth	4	feet
R.	Shoulder type	Gravel	
S.	Highway Surface type	Paved	
T.	Driveway Landing surface	Asphalt	

Permittee, upon signing this permit acknowledges and agrees to the following provisions:

This permit applies only to the State right of way.

This permit grants permission for a driveway allowing access to and from your property onto a State maintained highway. It does not permit the following within the right of way or within that portion of a driveway that is within the right of way: (1) Parking of vehicles "for sale"; (2) Obstructions of any kind (i.e. logs, cables, fencing, etc.); (3) Advertising signs or banners/flags; (4) Parking vehicles with signs/advertising on the side.

A driveway or approach road constructed under permit within a highway right-of-way is the property of the State, but all cost and liability arising from the construction, operation, or maintenance of a driveway or approach road is at the sole expense of those lands served. The Department is not obliged to change its maintenance practices to accommodate a driveway or approach road constructed under a permit, or to incur any additional expense removing snow berms or other obstructions from a driveway or approach road within a right of way resulting from the Department's activities, or activities under a permit issued under 17 AAC 15.

Permittee is responsible for adjusting or relocating the driveway or approach road without cost or liability to the Department if the use or safety of the highway requires that the driveway or approach road be adjusted or relocated.

This permit is not a property right but a temporary authorization, revocable by the State upon violation of any permit terms or conditions, or for other reasons. All reasonable attorney fees and costs associated with legal, or enforcement actions related to the terms and conditions of this permit will be borne by the Permittee.

Any survey monument or monument accessory that is disturbed or destroyed during construction or maintenance of the driveway will be restored or replaced by a Land Surveyor licensed in the State of Alaska.

The Permittee will be responsible for all necessary Federal, State, and Municipal permits and licenses required by law, pay all taxes and special assessments lawfully imposed upon the permitted area, and pay other fees and charges assessed under applicable law.

Placement of fill material in waters of the U.S., including wetlands and streams, requires prior authorization from the U.S. Army Corps of Engineers. It is the responsibility of the owner to contact the Corps before filling activities take place.

The Permittee shall construct and maintain a driveway in such a manner that the highway, and all of the highway's appurtenances or facilities, including drainage facilities, pipes, culverts, ditches, traffic control devices, streetlights, pathways, and sidewalks are not impaired or endangered in any way by the construction or maintenance. (17 AAC 10.020(b) If you damage any improvements within the State owned right of way, you will be responsible for returning them to their previous condition. The Department will inspect and approve the restored improvements. (17 AAC 10.065)

Permittee shall indemnify, defend and hold harmless the State, and its officers, employees, and contractors, from any and all claims or actions resulting from injury, death, loss, or damage sustained by any person or personal property resulting directly or indirectly from Permittee's use of or activities in the permitted area.

Landings from all paved roads must be paved and maintained from edge of the road to the length of the landing as stipulated in this permit.

If a culvert is required by this driveway permit, culvert ends must be installed at the time of installation and maintained continuously by the owner.

No person shall place, leave or deposit upon any street, avenue, alley, sidewalk or other public right of way any snow or ice which has been removed from a private driveway, private parking area, or the adjacent property. Permittee is responsible for his snow removal contractor's actions concerning placement of snow from Permittee's property.

If driveway construction or maintenance interferes with the public's safety and/or use of facilities within State owned right of way, you will be directed to stop work until adjustments are made.

While doing construction or maintenance activities do not park equipment or stockpile material on the shoulder during non-working hours.

Permittee is responsible for sight distance clearing of brush and obstructions adjacent to their property.

Driveway landings as stipulated in the permit must be paved and maintained from pavement edge on all paved roads.

Please contact the Department for information about acceptable driveway markers (i.e., size, materials, distance, etc.) for placement within the right of way.

The State will not change its maintenance practices to accommodate your driveway or incur additional expenses to clear snow berms or other obstacles resulting from the Department's activities.

The Applicant/Owner, or their contractor, shall identify and coordinate with all Utilities that own, operate, or maintain facilities within the work area to relocate and/or adjust their facilities to accommodate the proposed improvements. The cost to relocate and/or adjust utility facilities shall be borne by the Applicant/Owner. Call 811 before performing any construction activities onsite.

Permittee, upon signing this permit, acknowledges and agrees to the following conditions:

All access to Lots 1, 2, and 21 as depicted on the attached subdivision plan shall be attained through the subject access. **No additional access shall be granted from North Douglas Highway right-of-way to Lots 1, 2, or 21 or any other Lots within the proposed subdivision other than as depicted.**

Permittee must clear any and all track-out or debris from the roadway as a result of use of this driveway immediately. Remediation should be performed by a street sweeper, wet broom, or manually sweeping up debris. Dispose of debris in accordance with all federal, state, and municipal requirements. Washing or spraying track-out off the roadway is prohibited. If Department personnel are required to repair or clean up the driveway as a result of the Permittee's activities, the Permittee will be charged the cost.

Metal track equipment is not allowed on the paved road surface. Any damage and cost to repair the roadway or state infrastructure will be the responsibility of the Permittee.

All equipment and materials must be kept on private premises and outside the State right of way during non-working hours.

Any erosion, adverse settlement as deemed by the Department, water damage caused in construction or in operation of this driveway to the State Right of Way will be the responsibility of the Permittee to repair. The Permittee will cover all costs.

Ensure sight distance is maintained in compliance with the Alaska Highway Preconstruction Manual (AHPCM).

Permittee is not to exceed maximum hourly traffic in operation of this drive as outlined in the AHPCM; excess hour traffic may warrant a future traffic study under 17 AAC 10.060, paid for by the property owner or developer.

Parking is not authorized within the right of way.

Permittee shall not hinder the bike lane, or lanes of travel unless operating under an approved traffic control plan.

Permittee will locate any and all utilities within the construction area for this access to ensure they will not be impaired by the permittee's construction activities. If utilities may be impaired, it is the permittee's responsibility to attain all necessary permissions from the local municipality and state agencies (including DOT&PF Utilities and Permitting).

A 30" R1-1 STOP sign will be placed at the intersection with Egan Drive/Glacier Highway.

A regulatory stop bar will be painted at the "stop-line" adjacent to the required stop sign.

An approved Traffic Control Plan must be obtained through a Lane Closure Permit if the permittee expects to utilize or block any part of the North Douglas Highway road prism within 8 feet of the edge of pavement of the highway.

Attachments included as part of this permit are:

REQUIRED for ALL DRIVEWAYS:

[X] Plat including notes of the placement of the driveway.
[X] Site plan.
[X] Proof of ownership.
[ ] Traffic control plan.

REQUIRED for ALL APPROACH ROADS:

[X] Construction plans.
[X] Recorded plat or waiver including notes of the placement of the approach road.
[ ] Traffic control plan.

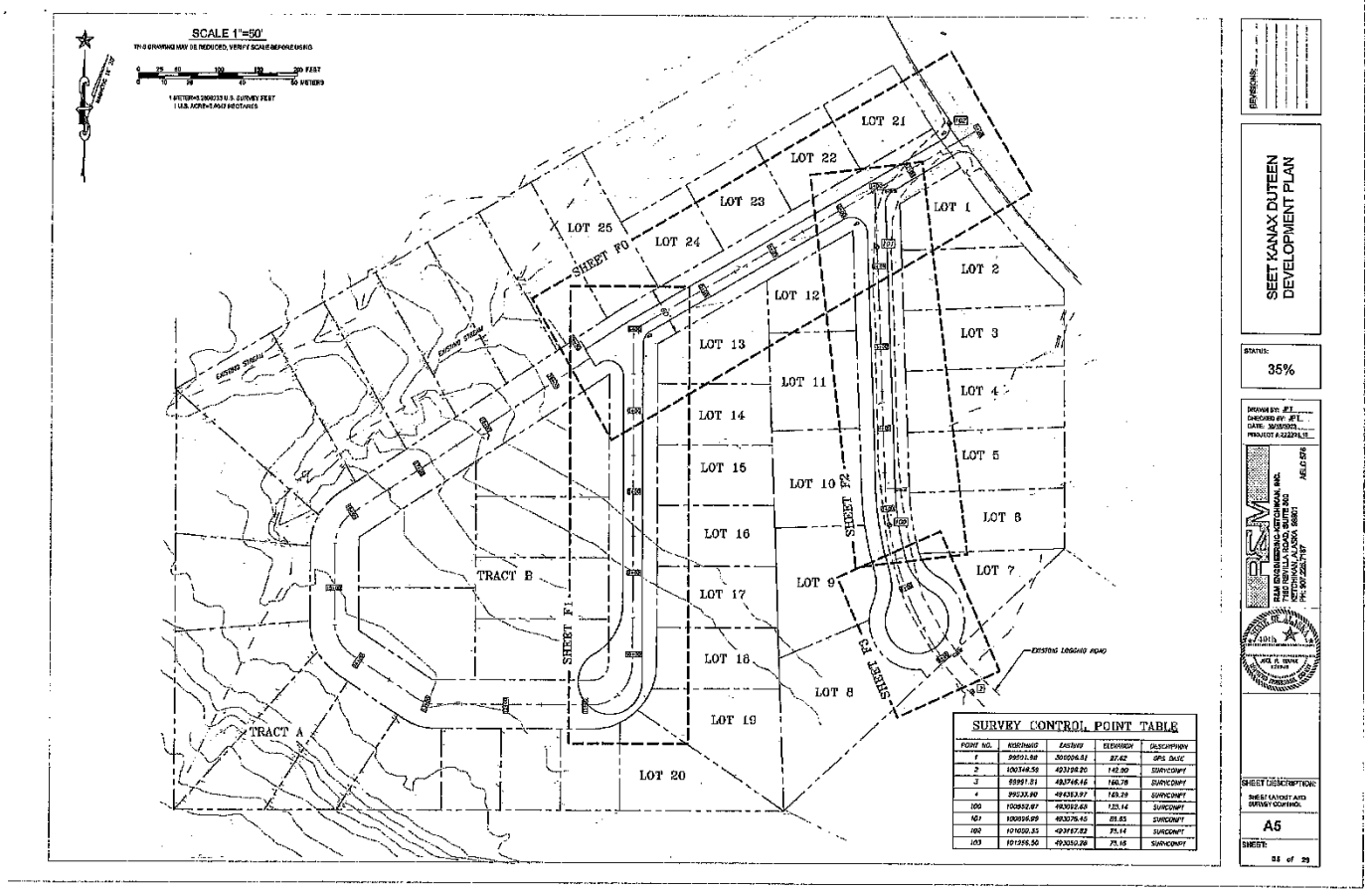
I, **LORRAINE DEASIS**, acknowledge that I am acting on behalf of the above named organization with the full authority to do so. I further acknowledge and accept that **TLINGIT HAIDA REGIONAL HOUSING AUTHORITY** shall comply with all the provisions and conditions that the Department of Transportation and Public Facilities has included as a condition of issuing this permit.

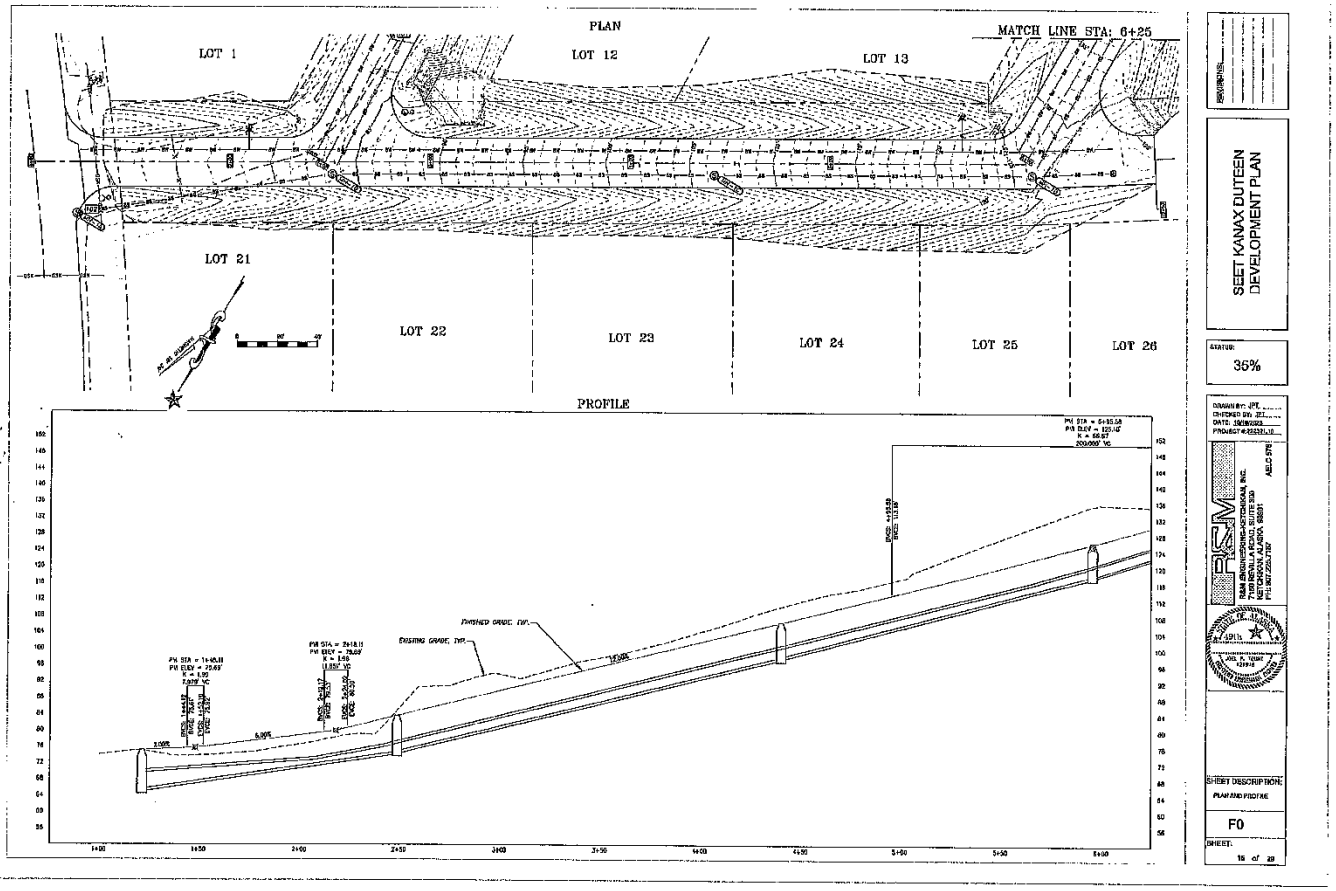
Lorraine Deasis
Permittee Signature

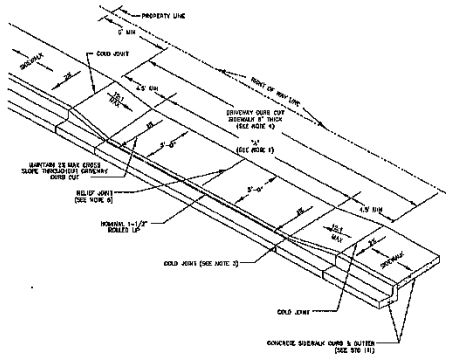
8-7-25
Date

DOT&PF Signature

08/07/2025
Date


SCALE 1"=50'
LOT 21
LOT 22
LOT 23
LOT 25
LOT 24
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20
TRACT A
TRACT B
SHEET F1
SHEET F2
SHEET F3
SHEET F0
EXISTING STREAM
EXISTING LOGGING ROAD
SURVEY CONTROL POINT TABLE
SEET KANAX DUTEEN
DEVELOPMENT PLAN
STATUS:
35%
A5

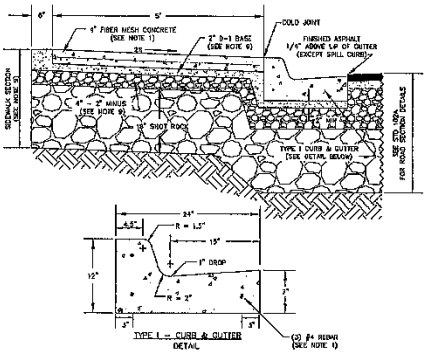

PLAN
MATCH LINE STA: 6+25
LOT 1
LOT 12
LOT 13
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
PROFILE
FINISHED GRADE, TYP.
EXISTING GRADE, TYP.
SEET KANAX DUTEEN
DEVELOPMENT PLAN
35%
SHEET DESCRIPTION:
PLAN AND PROFILE
F0
SHEET:
16 of 29



NOTES:

1. 14' ROUNDS WIDTH OF DRIVEWAY AT PROPERTY LINE, MAXIMUM WIDTH SHALL BE 24' FOR SINGLE FAMILY RESIDENCES AND 32' FOR COMMERCIAL FACILITIES OR COMMON DRIVEWAYS. GRADIENT MAY NOT BE CONSTRUCTED STEEPER THAN 4% OF THE PROPERTY LINE OR 16% FROM THE EDGE OF PAVEMENT AS MANUFACTURED.
2. ALL CONCRETE SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATION 03303 – SIDEWALK CURB AND GUTTER. THE CURING COMPOUND CHRISTENE INCORPORATION, CONFORMATION, ASSISTED FORMULA OR APPROVED EQUAL SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS.
3. COLD JOINTS REQUIRED BETWEEN SIDEWALK AND DRIVEWAY AND BETWEEN SIDEWALK AND CURB.
4. ALL CONCRETE WITHIN THE DRIVEWAY CURB CUT SHALL BE A MINIMUM 6" THICK AND SHALL BE POURED ON A 4" BASE OF D-1 COMPACTED TO 95% OF ITS ZAGRAM DENSITY.
5. 6"x 6" #10 GAUGE WIRE MESH REINFORCEMENT INSTALLED AT MID-DEPTH OR #4 REBAR SPACED APPROXIMATELY MAY BE SUBSTITUTED FOR FIBER MESH REINFORCED CONCRETE. ALL STEEL MUST HAVE A MINIMUM OF 2" OF CONCRETE COVER.
6. RELIEF JOINT REQUIRED IF "A" IS GREATER THAN 15'.

1/E1 DRIVE WAY CURB CUT DETAIL
NOT TO SCALE



NOTES:

1. CONCRETE SHALL BE CLASS A, FIBER MESH REINFORCED IN ACCORDANCE WITH CBJ STANDARD SPECIFICATION SECTION 03303 – SIDEWALK, CURB AND GUTTER. REBAR IN CURB AND WIRE MESH IN SIDEWALK IS ALLOWED AS SHOWN.
2. CONCRETE INTERNATIONAL CORPORATION ASSISTED FORMULA OR APPROVED EQUAL SHALL BE APPLIED AS A CURING COMPOUND. APPLICATION SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATIONS.
3. COLD JOINTS ARE REQUIRED EVERY 10' MAXIMUM. ALL JOINTS AND SEAMS SHALL BE EDGED.
4. STEEL TROWELING FINISH REQUIRED PRIOR TO BROOM FINISHING ON ALL SURFACES.
5. CURB AND GUTTER TRANSITION DESIGN TO BE APPROVED BY THE ENGINEER.
6. TYPE II AND TYPE III CURB TO BE USED AS DIRECTED BY THE ENGINEER IN ACCORDANCE TO CBJ STANDARD 1043.
7. ALL REINFORCING STEEL MUST HAVE A MINIMUM OF 2" OF CONCRETE COVER WHEN SUBSTITUTED FOR FIBER MESH.
8. WHEELCHAIR ACCESS RAMPS SHALL BE REQUIRED ON ALL NEW SIDEWALK CONSTRUCTION AT CROSSWALKS AND INTERSECTIONS. ACCESS RAMPS TO BE CONSTRUCTED IN ACCORDANCE TO CBJ STANDARD 108.
9. 4" CONCRETE SIDEWALK SUBBASE SHALL BE 2" D-1, 4" 2" MINUS AND 18" 6" SHOT ROCK. 2" ASPHALT SIDEWALK SUBBASE SHALL BE 2" D-1, 8" 2" MINUS AND 18" SHOT ROCK.
10. MINIMUM LONGITUDINAL SLOPE FOR CURB AND GUTTER SHALL BE NO LESS THAN 0.5%

2/E1 CONCRETE SIDEWALK, TYPE I CURB, AND GUTTER DETAIL
NOT TO SCALE

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS: 35%

DRAWN BY: MJ
CHECKED BY: MJ
DATE: 12/19/2025
PROJECT #: 22221.10

RSM
RSM ENGINEERING/CONSTRUCTION INC.
3000 C STREET, SUITE 203
KETCHIKAN, ALASKA 99901
PH: 907.225.7767
AECC-5370

STATE OF ALASKA
1094
MATTHEW J. JOHNSON
12/19/25
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: DETAILS

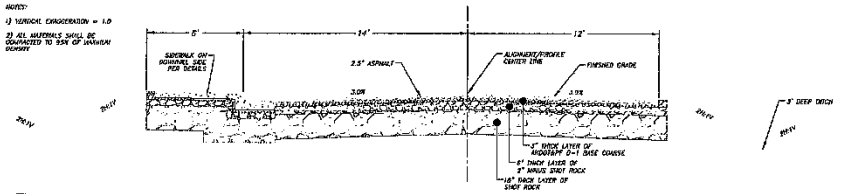
E1

SHEET: 27 of 29

NOTES:

1) VERTICAL EXAGGERATION = 1.0

2) ALL MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY



B1 TYPICAL ROAD SECTION
NOT TO SCALE

REVISIONS:

SEET KANAX DUTEEN DEVELOPMENT PLAN

STATUS:
35%

DRAWN BY: JET
CHECKED BY: JET
DATE: 08/18/2025
PROJECT #: 0220221.10

RSM
RAM ENGINEERING+SURVEYING, INC.
3550 TONGASS AVE, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7107
ASLC 6478

SHEET DESCRIPTION:
TYPICAL SECTIONS

B1

SHEET:
01 of 29

DOWL

MEMORANDUM

TO:	Tlingit Haida Regional Housing Authority
FROM:	Adam Miles, PE Cynthia Roe, EI
DATE:	April 19, 2024
SUBJECT:	Seet Kanax Duteen Trip Generation Memorandum

1.0 BACKGROUND

This memorandum provides a trip generation summary for the proposed residential subdivision located in Juneau, Alaska. The proposed development is on Douglas Island, adjacent to North Douglas Highway on lot USS 2135 Tract II. The development will consist of 44 single-family units constructed in at least two phases. Access to the subdivision will be provided via improvement of the existing driveway on North Douglas Highway. The North Douglas Highway right-of-way is owned and maintained by Alaska Department of Transportation and Public Facilities (DOT&PF). This memo was written to compare the expected trip generation to the Alaska Administrative Code (AAC) and City and Borough of Juneau (CBJ) Code trip generation threshold for a Traffic Impact Analysis (TIA).

2.0 TRAFFIC IMPACT ANALYSIS THRESHOLDS

In accordance with CBJ Code, a "(2) a development projected to generate fewer than 250 ADT shall not be required to have a traffic impact analysis." The policy continues to say a TIA is required for "… (1) a development projected to generate 500 or more average daily trips (ADT)", though "… (3) a development projected to generate more than 250 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…".[1]

Additionally, the State of Alaska requires a TIA "If a development is projected to generate more than 100 vehicle trips on a highway during any hour of the day".[2] Traffic impact analysis thresholds are only one measure used to determine the need for a TIA, and per 17 AAC 10.070 "The department will, in its discretion, require a traffic impact analysis based upon local traffic generation values." This clause provides the Department of Transportation and Public Facilities (DOT&PF) the broad ability to compel a TIA regardless of the trips generated.

[1] Title 49 CBJ Code Chapter 49.40.300, https://library.municode.com/ak/juneau/codes/code_of_ordinances?nodeId=PTIICOOR_TIT49LAUS_CH49.40PATR

[2] Section 17 Alaska Administrative Code 10.060, https://www.akleg.gov/basis/aac.asp#17.10.050.

3.0 DEVELOPMENT TRIP GENERATION

The Tlingit Haida Regional Housing Authority is proposing to develop a residential subdivision consisting of 44 single-family units constructed in at least two phases. Phase one is expected to be the largest effort with the construction of 22 detached units and four zero lot line attached units. Future planned development includes a total of 18 detached single-family units.[3]

The expected number of daily and peak hour trips was determined by using similar land uses found in the *Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition*.[4] Table 1 shows the size and type of unit expected at the development by land use code and development phase.[5] This information was then used to calculate the expected number of daily and peak hour trips generated by the development as shown in Table 2.

Table 1. Development Trip Generation

Development Phase	Description	ITE Code	Quantity	Units
1	Single-Family Detached Housing	210	22	Units
1	Single-Family Attached Housing	215	4	Units
Future	Single-Family Detached Housing	210	18	Units

Table 2. Development Vehicle Trips

Land Use Code	Phase	Daily	AM Peak Hour			PM Peak Hour		
		Total	Enter	Exit	Total	Enter	Exit	Total
210	1	251	6	17	23	16	9	25
215	1	29	1	2	3	2	1	3
210	Future	208	5	15	20	13	8	21
Total Development Trips Generated		**488**	**12**	**34**	**46**	**32**	**19**	**51**

From the trip generation estimation, a TIA is not required for DOT&PF by 17 AAC 10.060, due to the peak hour trips falling below 100 for any hour of any day analyzed.[6] However, the daily trips present a more complex assessment. As shown in the trip generation estimation, a TIA

[3] Email of Site Plan from Tlingit Haida Housing Authority, February 14, 2024.

[4] *ITE Trip Generation Manual,* 11th Edition, Institute of Transportation Engineers, September 2021.

[5] Estimated from preliminary site plan provided by Tlingit Haida Regional Housing Authority, Email February 14, 2024.

[6] Section 17 Alaska Administrative Code 10.060, https://www.akleg.gov/basis/aac.asp#17.10.050.

may or may not be required based upon CBJ Code. The most likely outcome from full development buildout is an ADT between 250 and 500 trips, which would place the decision for a TIA at the discretion of the CBJ Community Development Director.

According to CBJ code, if a TIA is prepared it "…must identify and assess the impacts of the proposed development on all affected transportation systems... The study area for the TIA shall be that area in which it is anticipated that the proposed development will increase ADT by five percent or more."[7]

Based on this code requirement, a TIA for this development would analyze traffic operations for intersections along roadways with less than approximately 9,200 ADT on a weekday. For this development these intersections include:

- Development Driveway / N Douglas Highway
- N Douglas Highway / Juneau-Douglas Bridge Roundabout

The Juneau-Douglas Bridge currently averages more than 13,000 ADT and S Douglas Highway roundabout averages more than 6,800 ADT. After accounting for the number of trips which would route to Downtown Juneau, no additional intersections beyond the Juneau-Douglas Bridge roundabout would be required by CBJ Code.

4.0 CONCLUSION

The Tlingit Haida Regional Housing Authority is proposing to develop a 44-unit single-family residential subdivision. An estimate of trips generated by the development indicated approximately 488 daily trips with 51 PM peak hour trips. From the trip generation estimation, a TIA is not required for DOT&PF by 17 AAC 10.060, due to the peak hour trips falling below 100 for any hour of any day analyzed.[8] Based upon CBJ code, the need for a TIA of this development is most likely at the discretion of the Community Development Department Director, with an ADT between 250 and 500 trips.

If a TIA is requested, the following study intersections should be included consistent with CBJ Code:

- Development Driveway (N Douglas Highway)
- N Douglas Highway / Juneau-Douglas Bridge Roundabout

No additional intersections beyond the Juneau-Douglas Bridge roundabout would be required by CBJ Code.

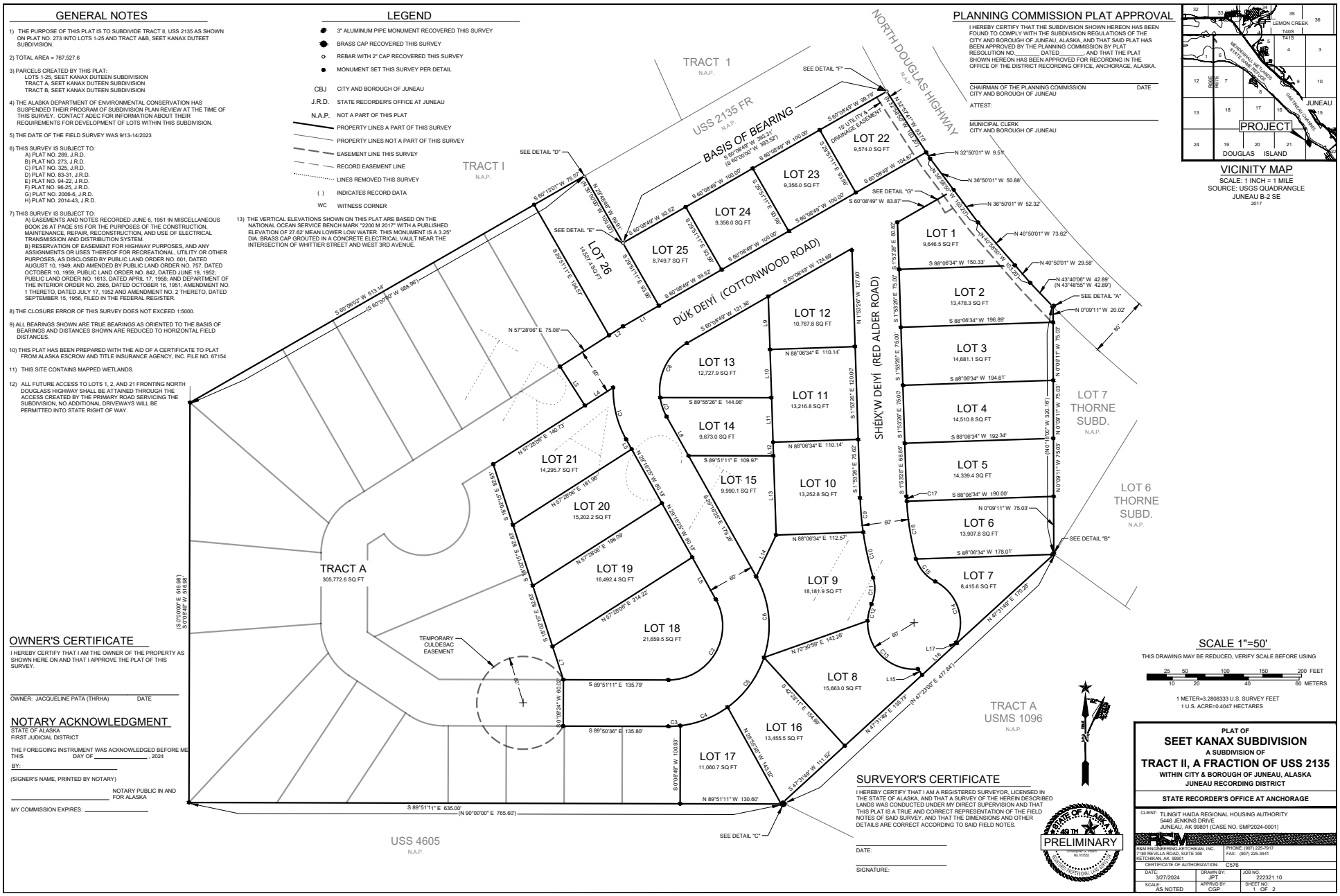
[7] Title 49 CBJ Code Chapter 49.40.305, https://library.municode.com/ak/juneau/codes/code_of_ordinances?nodeId=PTIICOOR_TIT49LAUS_CH49.40PATR

[8] Section 17 Alaska Administrative Code 10.060, https://www.akleg.gov/basis/aac.asp#17.10.050.

Appendix

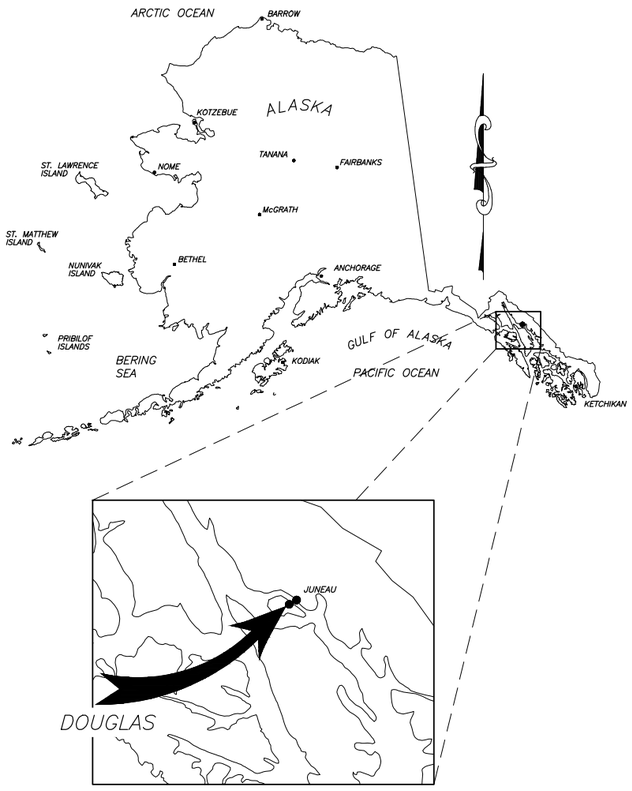
Site Plan

Site Plan


GENERAL NOTES
1) THE PURPOSE OF THIS PLAT IS TO SUBDIVIDE TRACT II, USS 2135 AS SHOWN ON PLAT NO. 273 INTO LOTS 1-25 AND TRACT A&B, SEET KANAX DUTEET SUBDIVISION.
2) TOTAL AREA = 767,527.6
3) PARCELS CREATED BY THIS PLAT:
LOTS 1-25, SEET KANAX DUTEEN SUBDIVISION
TRACT A, SEET KANAX DUTEEN SUBDIVISION
TRACT B, SEET KANAX DUTEEN SUBDIVISION
4) THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION HAS SUSPENDED THEIR PROGRAM OF SUBDIVISION PLAN REVIEW AT THE TIME OF THIS SURVEY. CONTACT ADEC FOR INFORMATION ABOUT THEIR REQUIREMENTS FOR DEVELOPMENT OF LOTS WITHIN THIS SUBDIVISION.
5) THE DATE OF THE FIELD SURVEY WAS 9/13-14/2023
6) THIS SURVEY IS SUBJECT TO:
A) PLAT NO. 269, J.R.D.
B) PLAT NO. 273, J.R.D.
C) PLAT NO. 325, J.R.D.
D) PLAT NO. 83-31, J.R.D.
E) PLAT NO. 94-22, J.R.D.
F) PLAT NO. 96-25, J.R.D.
G) PLAT NO. 2006-6, J.R.D.
H) PLAT NO. 2014-43, J.R.D.
7) THIS SURVEY IS SUBJECT TO:
A) EASEMENTS AND NOTES RECORDED JUNE 6, 1951 IN MISCELLANEOUS BOOK 26 AT PAGE 515 FOR THE PURPOSES OF THE CONSTRUCTION, MAINTENANCE, REPAIR, RECONSTRUCTION, AND USE OF ELECTRICAL TRANSMISSION AND DISTRIBUTION SYSTEM.
B) RESERVATION OF EASEMENT FOR HIGHWAY PURPOSES, AND ANY ASSIGNMENTS OR USES THEREOF FOR RECREATIONAL, UTILITY OR OTHER PURPOSES, AS DISCLOSED BY PUBLIC LAND ORDER NO. 601, DATED AUGUST 10, 1949, AND AMENDED BY PUBLIC LAND ORDER NO. 757, DATED OCTOBER 10, 1959; PUBLIC LAND ORDER NO. 842, DATED JUNE 19, 1952; PUBLIC LAND ORDER NO. 1613, DATED APRIL 17, 1958; AND DEPARTMENT OF THE INTERIOR ORDER NO. 2665, DATED OCTOBER 16, 1951, AMENDMENT NO. 1 THERETO, DATED JULY 17, 1952 AND AMENDMENT NO. 2 THERETO, DATED SEPTEMBER 15, 1956, FILED IN THE FEDERAL REGISTER.
8) THE CLOSURE ERROR OF THIS SURVEY DOES NOT EXCEED 1:5000.
9) ALL BEARINGS SHOWN ARE TRUE BEARINGS AS ORIENTED TO THE BASIS OF BEARINGS AND DISTANCES SHOWN ARE REDUCED TO HORIZONTAL FIELD DISTANCES.
10) THIS PLAT HAS BEEN PREPARED WITH THE AID OF A CERTIFICATE TO PLAT FROM ALASKA ESCROW AND TITLE INSURANCE AGENCY, INC. FILE NO. 67154
11) THIS SITE CONTAINS MAPPED WETLANDS.
12) ALL FUTURE ACCESS TO LOTS 1, 2, AND 21 FRONTING NORTH DOUGLASS HIGHWAY SHALL BE ATTAINED THROUGH THE ACCESS CREATED BY THE PRIMARY ROAD SERVICING THE SUBDIVISION. NO ADDITIONAL DRIVEWAYS WILL BE PERMITTED INTO STATE RIGHT OF WAY.
13) THE VERTICAL ELEVATIONS SHOWN ON THIS PLAT ARE BASED ON THE NATIONAL OCEAN SERVICE BENCH MARK "2200 M 2017" WITH A PUBLISHED ELEVATION OF 27.62' MEAN LOWER LOW WATER. THIS MONUMENT IS A 3.25" DIA. BRASS CAP GROUTED IN A CONCRETE ELECTRICAL VAULT NEAR THE INTERSECTION OF WHITTIER STREET AND WEST 3RD AVENUE.
LEGEND
3" ALUMINUM PIPE MONUMENT RECOVERED THIS SURVEY
BRASS CAP RECOVERED THIS SURVEY
REBAR WITH 2" CAP RECOVERED THIS SURVEY
MONUMENT SET THIS SURVEY PER DETAIL
CBJ CITY AND BOROUGH OF JUNEAU
J.R.D. STATE RECORDER'S OFFICE AT JUNEAU
N.A.P. NOT A PART OF THIS PLAT
PROPERTY LINES A PART OF THIS SURVEY
PROPERTY LINES NOT A PART OF THIS SURVEY
EASEMENT LINE THIS SURVEY
RECORD EASEMENT LINE
LINES REMOVED THIS SURVEY
( ) INDICATES RECORD DATA
WC WITNESS CORNER
PLANNING COMMISSION PLAT APPROVAL
I HEREBY CERTIFY THAT THE SUBDIVISION SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF JUNEAU, ALASKA, AND THAT SAID PLAT HAS BEEN APPROVED BY THE PLANNING COMMISSION BY PLAT RESOLUTION NO._____ DATED_____, AND THAT THE PLAT SHOWN HEREON HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE DISTRICT RECORDING OFFICE, ANCHORAGE, ALASKA.
CHAIRMAN OF THE PLANNING COMMISSION CITY AND BOROUGH OF JUNEAU DATE
ATTEST:
MUNICIPAL CLERK CITY AND BOROUGH OF JUNEAU
VICINITY MAP
SCALE: 1 INCH = 1 MILE
SOURCE: USGS QUADRANGLE JUNEAU B-2 SE 2017
PROJECT
DOUGLAS ISLAND
JUNEAU
DOUGLAS HIGHWAY
MENDENHALL WETLANDS STATE GAME REFUGE
T40S T41S R66E R67E
TRACT I N.A.P.
TRACT 1 N.A.P.
USS 2135 FR N.A.P.
NORTH DOUGLAS HIGHWAY N.A.P.
BASIS OF BEARING
DÚK DEIYÍ (COTTONWOOD ROAD)
SHÉIX'W DEIYÍ (RED ALDER ROAD)
LOT 1 9,646.5 SQ FT
LOT 2 13,478.3 SQ FT
LOT 3 14,681.1 SQ FT
LOT 4 14,510.8 SQ FT
LOT 5 14,339.4 SQ FT
LOT 6 13,907.8 SQ FT
LOT 7 8,415.6 SQ FT
LOT 8 15,663.0 SQ FT
LOT 9 18,181.9 SQ FT
LOT 10 13,252.8 SQ FT
LOT 11 13,216.8 SQ FT
LOT 12 10,767.8 SQ FT
LOT 13 12,727.9 SQ FT
LOT 14 9,673.0 SQ FT
LOT 15 9,990.1 SQ FT
LOT 16 13,455.5 SQ FT
LOT 17 11,060.7 SQ FT
LOT 18 21,659.5 SQ FT
LOT 19 16,492.4 SQ FT
LOT 20 15,202.2 SQ FT
LOT 21 14,295.7 SQ FT
LOT 22 9,574.0 SQ FT
LOT 23 9,356.0 SQ FT
LOT 24 9,356.0 SQ FT
LOT 25 8,749.7 SQ FT
LOT 26 14,521.4 SQ FT
TRACT A 305,772.6 SQ FT
LOT 7 THORNE SUBD. N.A.P.
LOT 6 THORNE SUBD. N.A.P.
TRACT A USMS 1096 N.A.P.
USS 4605 N.A.P.
TEMPORARY CULDESAC EASEMENT
16' UTILITY & DRAINAGE EASEMENT
SEE DETAIL "A"
SEE DETAIL "B"
SEE DETAIL "C"
SEE DETAIL "D"
SEE DETAIL "E"
SEE DETAIL "F"
SEE DETAIL "G"
OWNER'S CERTIFICATE
I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY AS SHOWN HERE ON AND THAT I APPROVE THE PLAT OF THIS SURVEY.
OWNER: JACQUELINE PATA (THRHA) DATE
NOTARY ACKNOWLEDGMENT
STATE OF ALASKA
FIRST JUDICIAL DISTRICT
THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS DAY OF _____, 2024
BY:
(SIGNER'S NAME, PRINTED BY NOTARY)
NOTARY PUBLIC IN AND FOR ALASKA
MY COMMISSION EXPIRES:
SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT THE DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.
DATE:
SIGNATURE:
STATE OF ALASKA 49TH
PRELIMINARY
SCALE 1"=50'
THIS DRAWING MAY BE REDUCED, VERIFY SCALE BEFORE USING
25 50 100 150 200 FEET
10 20 40 60 METERS
1 METER=3.2808333 U.S. SURVEY FEET
1 U.S. ACRE=0.4047 HECTARES
PLAT OF
SEET KANAX SUBDIVISION
A SUBDIVISION OF
TRACT II, A FRACTION OF USS 2135
WITHIN CITY & BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT
STATE RECORDER'S OFFICE AT ANCHORAGE
CLIENT: TLINGIT HAIDA REGIONAL HOUSING AUTHORITY
5446 JENKINS DRIVE
JUNEAU, AK 99801 (CASE NO. SMP2024-0001)
RAM ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, AK 99903
PHONE: (907) 225-7917
FAX: (907) 225-3441
CERTIFICATE OF AUTHORIZATION: C576
DATE: 3/27/2024
DRAWN BY: JPT
JOB NO.: 222321.10
SCALE: AS NOTED
APPRVD BY: CGP
SHEET NO.: 1 OF 2

SÉET KANAX DUTÉ_EN SUBDIVISION PHASE 1

SHÉI_X'W DEIYÍ UTILITY DESIGN PERMIT SET



PROJECT LOCATION MAP

NOT TO SCALE

PROJECT VICINITY MAP

NOT TO SCALE

SHEET INDEX	
A1	TITLE SHEET
A7	TABLES
B2–B9	DETAILS
U1–U2	SANITARY SEWER PLAN AND PROFILE
W1–W2	WATER PLAN AND PROFILE

PROJECT NARRATIVE

THE SEET KANAX DUTEEN SUBDIVISION IS A PROPOSED SUBDIVISION THAT WILL SUBDIVIDE TRACT II, A FRACTION OF USS 2135 INTO (40) SMALLER PARCELS FOR THE PURPOSE OF BUILDING RESIDENTIAL HOMES. THIS PROJECT CONSISTS OF RIGHT OF WAY IMPROVEMENTS WITHIN THE SEET KANAX DUTEEN SUBDIVISION. THESE IMPROVEMENTS INCLUDE THE CONSTRUCTION OF WATER UTILITIES, SEWER UTILITIES. THIS PROJECT REPRESENTS PHASE 1 OF THE SUBDIVISION WHICH INCLUDES INFRASTRUCTURE FOR 21 HOMES.

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TITLE SHEET

A1

SHEET:
01 of 14

RED ALDER ROAD LINE TABLE

LINE #	LENGTH	BEARING	START COORD.	END COORD.
L37	80.03	S60° 08' 49"W	N: 101039.66 E: 493200.63	N: 100999.82 E: 493131.22
L38	201.72	S1° 53' 26"E	N: 100909.79 E: 493081.05	N: 100708.18 E: 493087.71
L39	191.94	S25° 08' 52"E	N: 100577.12 E: 493122.72	N: 100403.38 E: 493204.28

RED ALDER ROAD CURVE TABLE

CURVE #	DELTA	RADIUS	CURVE LENGTH	CHORD BEARING	PC	PT
C9	62°02'	100.00'	108.28'	S29° 07' 41.44"W	10+80.03	11+88.31
C10	26°08'	300.00'	136.84'	S14° 57' 26.14"E	13+90.03	15+26.86

WATER & SEWER SERVICE POINT TABLE

POINT NO.	NORTHING	EASTING	DESCRIPTION
104	100983.56	493167.34	LOT 1 WATER SERVICE
105	100980.35	493161.85	LOT 1 SEWER SERVICE
106	100901.87	493114.01	LOT 2 SEWER SERVICE
107	100894.16	493118.74	LOT 2 WATER SERVICE
108	100852.59	493116.01	LOT 3 SEWER SERVICE
109	100843.21	493116.98	LOT 3 WATER SERVICE
110	100803.27	493120.11	LOT 4 SEWER SERVICE
111	100797.10	493120.51	LOT 4 WATER SERVICE
112	100749.50	493122.46	LOT 5 WATER SERVICE
113	100753.29	493121.73	LOT 5 SEWER SERVICE
114	100698.82	493123.40	LOT 6 WATER SERVICE
115	100704.30	493123.32	LOT 6 SEWER SERVICE
116	100646.55	493130.68	LOT 7 WATER SERVICE
117	100651.46	493129.63	LOT 7 SEWER SERVICE
118	100597.85	493148.48	LOT 8 WATER SERVICE
119	100603.53	493148.16	LOT 8 SEWER SERVICE
120	100547.07	493175.41	LOT 9 WATER SERVICE
121	100552.68	493172.20	LOT 9 SEWER SERVICE
122	101029.74	493114.75	LOT 10 WATER SERVICE
123	101027.47	493112.66	LOT 10 SEWER SERVICE
124	101004.23	493083.18	LOT 11 WATER SERVICE
125	101001.95	493081.09	LOT 11 SEWER SERVICE
126	100973.54	493061.06	LOT 12 WATER SERVICE
127	100967.65	493060.19	LOT 12 SEWER SERVICE
128	100920.20	493046.83	LOT 13 WATER SERVICE
129	100915.51	493046.22	LOT 13 SEWER SERVICE
130	100877.13	493046.94	LOT 14 WATER SERVICE
131	100872.14	493047.10	LOT 14 SEWER SERVICE
132	100815.27	493049.13	LOT 15 WATER SERVICE
133	100810.28	493049.25	LOT 15 SEWER SERVICE
134	100783.26	493050.43	LOT 16 WATER SERVICE
135	100778.26	493050.59	LOT 16 SEWER SERVICE
136	100729.22	493052.27	LOT 17 WATER SERVICE
137	100724.22	493052.44	LOT 17 SEWER SERVICE
138	100678.54	493054.03	LOT 18 SEWER SERVICE
140	100683.53	493053.87	LOT 18 WATER SERVICE
141	100624.75	493068.44	LOT 19 WATER SERVICE
142	100620.69	493071.94	LOT 19 SEWER SERVICE
143	100584.40	493085.73	LOT 20 WATER SERVICE
144	100580.53	493087.52	LOT 20 SEWER SERVICE
145	100531.70	493107.04	LOT 21 WATER SERVICE
146	100527.83	493108.83	LOT 21 SEWER SERVICE

SANITARY SEWER STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS
CONNECT TO EX. SS LINE	CONNECT TO EXISTING SEWERLINE STA: 10+44.63 / OFF: 19.34' RIM ELEV. = 69.04' SUMP ELEV. = 64.30' SS LN 1.01 (SW 8" C900) I.E. IN = 64.30' EX. SS LN (NE PVC Pipe) I.E. OUT = 64.30'
SEWER 1	INSTALL 8" CAP STA: 16+94.43 / OFF: -20.03' RIM ELEV. = 0.00' SUMP ELEV. = -3.00'
SEWER 2	INSTALL 8" CAP STA: 16+39.31 / OFF: 70.90' RIM ELEV. = 138.00' SUMP ELEV. = 128.20' SS LN 1.06 (NE 8" C900) I.E. OUT = 128.23'
SS MH 1	CONST. 4'ø MANHOLE STA: 11+30.52 / OFF: 13.07' RIM ELEV. = 79.92' SUMP ELEV. = 69.97' SS LN 1.02 (S 8" C900) I.E. IN = 70.21' SS LN 1.01 (NE 8" C900) I.E. OUT = 69.97'
SS MH 2	CONST. 4'ø MANHOLE STA: 11+82.61 / OFF: 13.42' RIM ELEV. = 84.73' SUMP ELEV. = 76.51' SS LN 1.03 (S 8" C900) I.E. IN = 76.80' SS LN 1.02 (N 8" C900) I.E. OUT = 76.67'
SS MH 3	CONST. 4'ø MANHOLE STA: 14+24.77 / OFF: 13.48' RIM ELEV. = 114.09' SUMP ELEV. = 106.27' SS LN 1.04 (S 8" C900) I.E. IN = 106.43' SS LN 1.03 (N 8" C900) I.E. OUT = 106.29'
SS MH 4	CONST. 4'ø MANHOLE STA: 15+15.04 / OFF: 13.49' RIM ELEV. = 124.46' SUMP ELEV. = 116.46' SS LN 1.05 (SE 8" C900) I.E. IN = 116.66' SS LN 1.04 (N 8" C900) I.E. OUT = 116.46'
SS MH 5	CONST. 4'ø MANHOLE STA: 16+32.23 / OFF: 15.65' RIM ELEV. = 133.49' SUMP ELEV. = 125.86' SS LN 2.1 (E 8" C900) I.E. IN = 125.96' SS LN 1.06 (SW 8" C900) I.E. IN = 126.00' SS LN 1.05 (NW 8" C900) I.E. OUT = 125.86'
SS MH 8	CONST. 4'ø MANHOLE STA: 16+64.51 / OFF: -20.16' RIM ELEV. = 134.36' SUMP ELEV. = 127.70' SS LN 2.2 (SE 8" C900) I.E. IN = 127.87' SS LN 2.1 (W 8" C900) I.E. OUT = 127.73'
SS MH EX 1	CONST. 4'ø MANHOLE STA: 10+21.52 / OFF: 25.81' RIM ELEV. = 75.20' SUMP ELEV. = 62.76' EX. SS LN (SW PVC Pipe) I.E. IN = 62.78'

SANITARY SEWER PIPE TABLE

PIPE ID	DIAMETER/TYPE	LENGTH	SLOPE	CONNECTING STRUCTURE
EX. SS LN	8" C900	24.0'	6.3%	CONNECT TO EX. SS LINE / SS MH EX 1
SS LN 1.01	8" C900	92.4'	6.1%	CONNECT TO EX. SS LINE / SS MH 1
SS LN 1.02	8" C900	58.3'	11.1%	SS MH 1 / SS MH 2
SS LN 1.03	8" C900	244.4'	12.1%	SS MH 2 / SS MH 3
SS LN 1.04	8" C900	94.0'	10.7%	SS MH 3 / SS MH 4
SS LN 1.05	8" C900	117.1'	7.9%	SS MH 4 / SS MH 5
SS LN 1.06	8" C900	55.7'	4.0%	SS MH 5 / SEWER 2
SS LN 2.1	8" C900	48.2'	3.7%	SS MH 5 / SS MH 8
SS LN 2.2	8" C900	29.9'	2.8%	SS MH 8 /

WATER STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS
Structure - (283)	Null Structure STA: ??? / OFF: ???
WATER 1	INSTALL FIRE HYDRANT PER DETAILS STA: 11+93.18 / OFF: -25.77'
WATER 2	INSTALL FIRE HYDRANT PER DETAILS STA: 16+11.07 / OFF: -24.83'
WATER 3	Install 8"x8" M.J. TEE STA: 16+59.06 / OFF: -0.25'
WATER 4	INSTALL 2" BLOW-OFF VALVE STA: 16+95.40 / OFF: -0.16'
WATER 5	INSTALL 8" CAP STA: 16+57.66 / OFF: 74.82'
WATER 6	INSTALL 16"x8" M.J. TEE STA: 10+30.09 / OFF: -6.48'

WATER LINE PIPE TABLE

PIPE ID	DIAMETER/TYPE	LENGTH	START STA/OFF	END STA/OFF
W LN 1.01	8" HDPE	33.5'	STA: 10+30.09 / OFF: -6.48'	STA: 10+63.55 / OFF: -5.42'
W LN 1.02	8" HDPE	33.7'	STA: 10+63.55 / OFF: -5.42'	STA: 10+97.95 / OFF: -3.29'
W LN 1.03	8" HDPE	31.2'	STA: 10+97.95 / OFF: -3.29'	STA: 11+30.66 / OFF: -6.00'
W LN 1.04	8" HDPE	45.7'	STA: 11+30.66 / OFF: -6.00'	STA: 11+77.99 / OFF: -0.57'
W LN 1.05	8" HDPE	214.1'	STA: 11+77.99 / OFF: -0.57'	STA: 13+92.19 / OFF: -0.21'
W LN 1.06	8" HDPE	106.2'	STA: 13+92.19 / OFF: -0.21'	STA: 14+99.15 / OFF: -0.65'
W LN 1.07	8" HDPE	134.5'	STA: 14+99.15 / OFF: -0.65'	STA: 16+33.69 / OFF: -0.30'
W LN 1.08	8" HDPE	25.4'	STA: 16+33.69 / OFF: -0.30'	STA: 16+59.06 / OFF: -0.25'
W LN 1.09	8" HDPE	51.0'	STA: 16+93.23 / OFF: 0.00'	STA: 16+93.65 / OFF: 50.98'
W LN 2.1	8" HDPE	18.2'	STA: 16+59.06 / OFF: -0.25'	STA: 16+77.30 / OFF: -0.20'
W LN 2.2	8" HDPE	18.2'	STA: 16+77.30 / OFF: -0.20'	STA: 16+95.54 / OFF: -0.16'

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

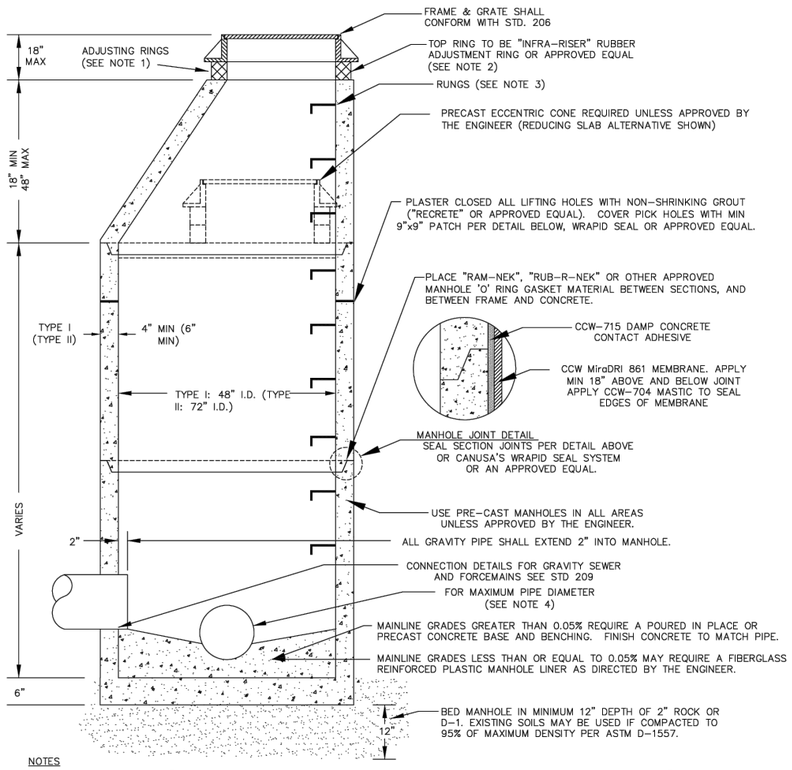
R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ALIGNMENT AND GRADING TABLES

A7

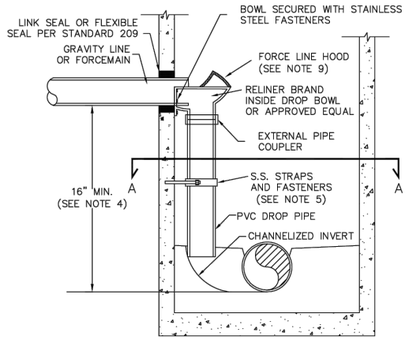
SHEET:
02 of 14



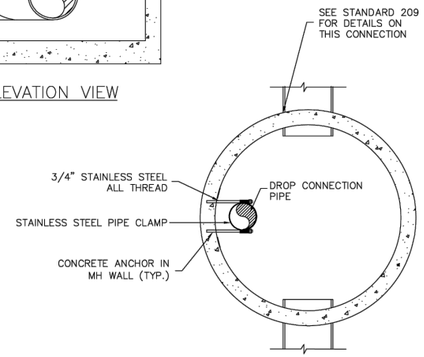
NOTES

1. USE NO MORE THAN ONE 4" ADJUSTING RING FOR NEW CONSTRUCTION OR UNPAVED ROADS, USE NO MORE THAN THREE 4" RINGS FOR RECONSTRUCTION OF PAVED OR CHIPSEAL ROADS. TOP ADJUSTING RINGS SHALL BE AN "INFRA-RISER" RUBBER ADJUSTING RING OR APPROVED EQUAL. MATCH FINAL GRADE PER TABLE CBJ STANDARD 205.
2. USE "PL POLYURETHANE SELF-LEVELING CONCRETE CRACK SEALANT" OR APPROVED EQUAL FOR "INFRA-RISER" INSTALLATION.
3. RUNGS TO BE PLACED 12" O.C. ON UNOBSTRUCTED SIDE OF MANHOLE. LAST RUNG SHALL BE 18" MAX FROM BOTTOM OF MANHOLE, AND TOP RUNG SHALL BE 6" MAXIMUM FROM TOP OF CONE. IF UNOBSTRUCTED SIDE NOT AVAILABLE, LAST RUNG SHALL BE PLACED 6" OVER SMALLEST PIPE. RUNGS SHALL BE LANE POLYETHYLENE 14" LADDER STEPS OR AN APPROVED EQUAL.
4. MAXIMUM PIPE DIAMETER SHALL BE 20" FOR A TYPE I MANHOLE. FOR LARGER PIPES, USE A TYPE II MANHOLE. MANHOLES INTERSECTED BY MORE THAN 2 PIPES, 15" DIAMETER OR LARGER, USE A TYPE II MANHOLE. MINIMUM MAINLINE DIAMETER SHALL BE 8".
5. REFER TO A.S.T.M. C-478 FOR DESIGN REQUIREMENTS AND C-478-69 FOR MINIMUM STEEL FOR BARREL AND BASE. BLOCKOUTS SHALL BE FORMED.
6. IF MANHOLE IS WITHIN A ROADWAY, COMPACTION TESTS MUST BE TAKEN ON BACKFILL EVERY 3'. DENSITY SHALL BE 95% OF MAXIMUM PROCTOR DENSITY.
7. MANHOLE FRAMES MAY BE RAISED TO ACCOMMODATE PAVEMENT OVERLAYS PROVIDED THE DISTANCE FROM THE TOP OF THE FRAME TO THE FIRST RUNG IS LESS THAN 36".

1/B2 SANITARY SEWER MANHOLE, TYPE I&II DETAIL
NOT TO SCALE



ELEVATION VIEW

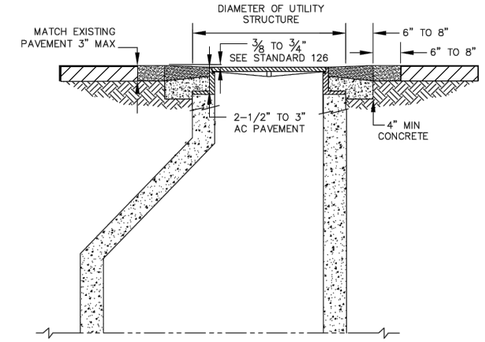


PIPE SUPPORT DETAIL (SEE NOTE 6)

SECTION A-A

NOTES:
1. ALL OTHER ASPECTS OF MANHOLE CONSTRUCTION SHALL CONFORM WITH STANDARD 203.
2. MANHOLE ELEVATION SHALL CONFORM WITH STANDARD 205.
3. MANHOLE COVER AND FRAME SHALL CONFORM WITH STANDARD 206.
4. DROP CONNECTIONS ARE REQUIRED IF INFLOW INVERT ELEVATION IS MORE THAN 16" ABOVE THE OUTLET INVERT ELEVATION WHERE INVERT ELEVATIONS ARE LESS THAN 16" APART, A CHANNELIZED INVERT SHALL BE FORMED TO A MAXIMUM OF ONE INFLOW PIPE DIAMETER BELOW THE INFLOW PIPE INVERT.
5. STAINLESS STEEL PIPE SUPPORTS SHALL BE INSTALLED 3'-0" ON CENTER ON THE VERTICAL DROP PIPE.
6. A RELINER BRAND STAINLESS ADJUSTABLE CLAMPING BRACKET MAY BE USED IN PLACE OF THE ILLUSTRATED PIPE SUPPORT.
7. DROP PIPING SHALL BE THE DIAMETER SPECIFIED BY THE MANUFACTURER OF THE DROP ASSEMBLY.
8. IF MORE THAN ONE DROP CONNECTION IS MADE, INSTALL A MIN. 6' DIAMETER MANHOLE.
9. FORCE LINE HOOD FOR INSIDE DROP BOWL, RELINER BRAND OR APPROVED EQUAL.

2/B2 SANITARY SEWER DROP MANHOLE
NOT TO SCALE



MANHOLE LID
BELOW GRADE

MANHOLE DEPTHS BELOW GRADE

LOCATION OF MANHOLE	DEPTH (D)
PAVED STREETS (SEE NOTE 1)	3/8"-3/4"
BACKYARDS, GRAVEL STREETS, AND TRAVELED ALLEY AREAS	6" MAX

NOTES:
1. MANHOLE LID MUST CONFORM TO THE GRADE AND CROSS SLOPE OF THE STREET. SEE STANDARD 126.
2. MEASUREMENT SHALL BE TAKEN FROM THE TOP OF THE FRAME. SEE STANDARD 206A/206B
3. FOR BACKYARDS, GRAVEL STREETS AND TRAVELED ALLEY AREAS, BACKFILL TO MATCH EXISTING GRADE.
4. SANITARY SEWER MAIN CLEANOUT ELEVATIONS SHALL CONFORM TO THIS STANDARD.

3/B2 MANHOLE HEIGHT DETAIL
NOT TO SCALE

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
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DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
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PH: 907.225.7187
AELC 576

STATE OF ALASKA 49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TYPICAL SECTIONS

B2

SHEET:
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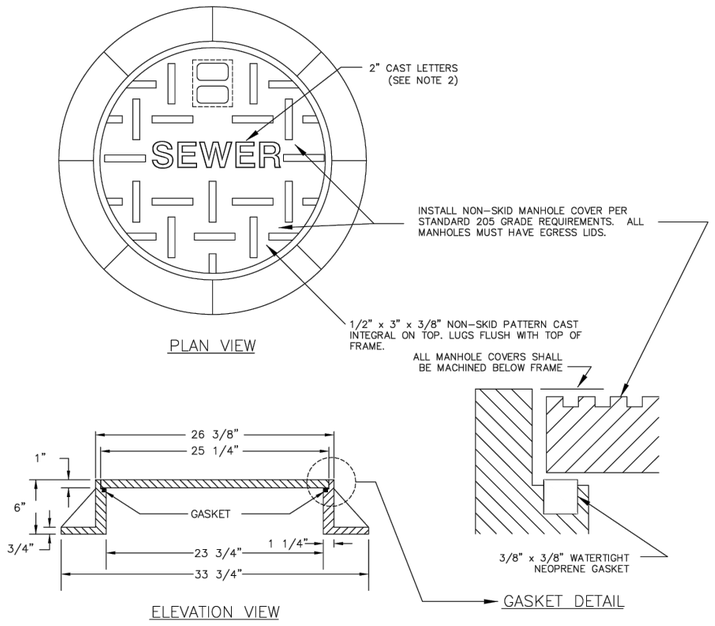
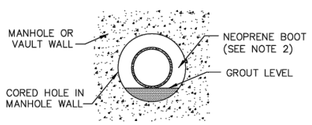


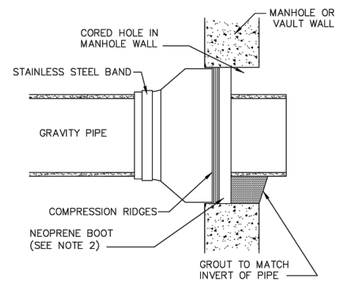
NOTES:
1. FRAME MUST BE MACHINED TO FIT WATERTIGHT NEOPRENE GASKET.
2. MANHOLE COVER SHALL BE WATER TIGHT WITH NO HOLES, SHALL HAVE THE WORD "SEWER", "WATER" OR "STORM DRAIN" CAST IN COVER AND SHALL BE PROVIDED WITH AN INTEGRAL POCKET LIFT HANDLE.
3. FRAME AND MANHOLE COVER DIMENSIONS SHALL BE IN ACCORDANCE WITH OLYMPIC CONSTRUCTION CASTINGS NO. MH30A WITH EGRESS LID, OR AN APPROVED EQUAL.
4. FRAME AND MANHOLE COVER SHALL BE DUCTILE OR CAST IRON AND A TYPE THAT WILL NOT CREATE A HAZARD FOR BICYCLE TRAFFIC.
5. IF MAINLINE IS 20" OR GREATER, PROVIDE MANHOLE WITH 30" OPENING IN COVER & FRAME.
6. ALL MANHOLE COVERS SHALL BE MACHINED BELOW FRAME AS SHOWN IN GASKET DETAIL ABOVE.

1/B3 STANDARD MANHOLE COVER AND FRAME DETAIL
NOT TO SCALE



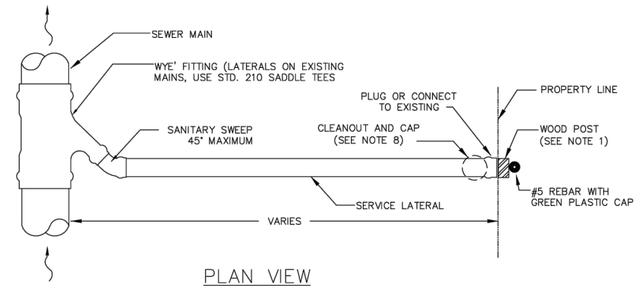
GROUT DETAIL

NOTES
1. ALL MANHOLE CONNECTIONS SHALL BE 100% WATERTIGHT.
2. ALL PIPE SHALL EXTEND 2" INTO MANHOLE.
3. NEOPRENE BOOT ON THE FLEXIBLE SEAL ADAPTER SHALL BE A MINIMUM OF 3/8" THICK PER ASTM C-443, AND SHALL BE HELD IN PLACE WITH AN INTERNAL EXPANDING BAND SUCH AS "KOR-N-SEAL" OR APPROVED EQUAL.
4. PVC SAND COLLAR NOT ALLOWED IN AREAS OF A HIGH WATER TABLE.
5. HDPE FLANGE SHALL BE WELDED TO A SECTION OF PIPE AND INSERTED THROUGH THE FLEXIBLE SEAL FROM THE INSIDE OF THE MANHOLE. THE LENGTH OF HDPE REQUIRED TO BE DETERMINED BY THE INSTALLER.
6. ROMAC HDPE PIPE STIFFINER OR APPROVED EQUAL MAY BE REQUIRED FOR HDPE GRAVITY MAIN INSTALLATIONS. VERIFY WITH THE ENGINEER PRIOR TO INSTALLATION.

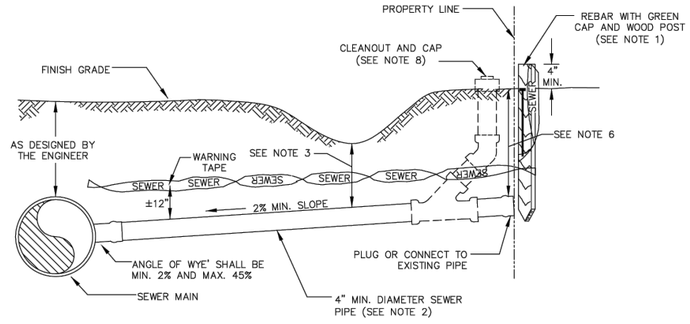


FLEXIBLE SEAL ADAPTER

2/B3 MANHOLE CONNECTION DETAIL
NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTES:
1. MARK SERVICE WITH GREEN PAINTED 2"x4" POST OR STAMP "S" IN TOP OF CURB. POST SHALL EXTEND TO DEPTH OF SERVICE LATERAL. REBAR W/CAP SHALL BE DRIVEN TO GROUND LEVEL. EXTEND WARNING TAPE TO TOP OF POST AND STAPLE IN PLACE.
2. ACCEPTABLE PIPE FOR USE WITHIN R.O.W. INCLUDES C900 PVC, SDR 35 PVC AND DUCTILE IRON.
3. MINIMUM CLEARANCE OF 18" REQUIRED BENEATH DITCH LINE. PIPE WITH LESS THAN 44" OF COVER SHALL BE INSULATED AS APPROVED BY THE ENGINEER.
4. DISTANCE FROM WYE TO MANHOLE AND TWO MEASURED DISTANCES FROM END OF SERVICE PIPE TO PERMANENT OBJECTS SHALL BE NOTED ON AS-BUILT PLANS.
5. SERVICE LATERAL SHALL END AT THE PROPERTY LINE WITH A BELL AT THE END OF PIPE.
6. LATERAL DEPTH AT PROPERTY LINE SHALL ACCOMMODATE EXISTING BUILDING SEWER OR FUTURE BUILDING SITE(S).
7. PIPE CONNECTIONS IN THE RIGHT-OF-WAY THAT DO NOT USE BELL AND SPIGOT SHALL CONFORM TO STANDARD 218.
8. CLEANOUT MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.

3/B3 SANITARY SEWER SERVICE LATERAL DETAIL
NOT TO SCALE

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REV 1: WATER AND SEWER PROFILES

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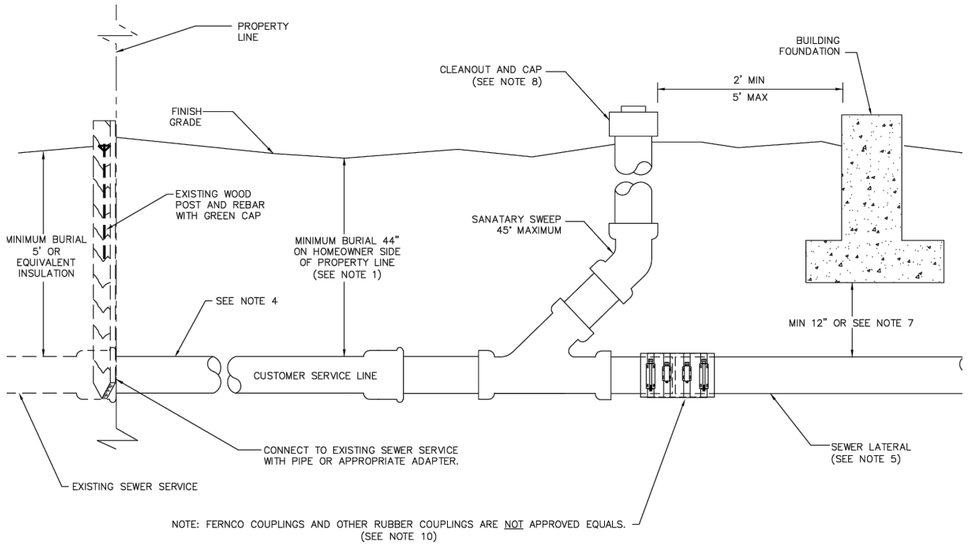
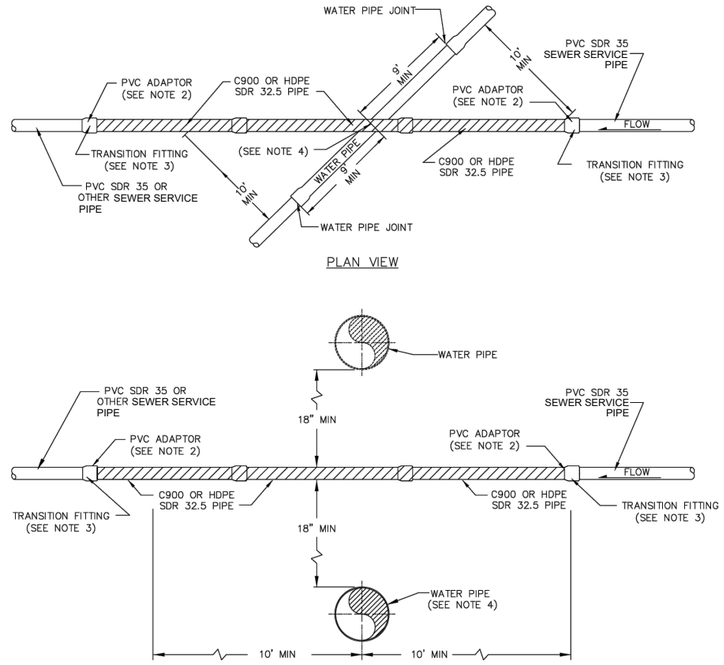


NOTES:

1. WHERE DEPTH OF PIPE MUST BE LESS THAN 44" INSULATION SHALL BE REQUIRED AS APPROVED BY THE ENGINEER.
2. MINIMUM GRADE SHALL BE 2% (1/4" PER FOOT).
3. MINIMUM PIPE DIAMETER SHALL BE 4".
4. ACCEPTABLE MATERIALS FOR PIPE CONSTRUCTION BETWEEN THE PROPERTY LINE AND THE CLEANOUT AT THE FOUNDATION INCLUDE: PVC (SDR 35 OR THICKER), A.B.S. (SCHEDULE 40), DUCTILE IRON (CLASS 2), AND CAST IRON (CLASS 2200).
5. MATERIALS AND INSTALLATION OF THE SEWER LATERAL SHALL CONFORM TO THE UNIFORM PLUMBING CODE. (NOTE: SDR 35 PVC IS NOT AN APPROVED MATERIAL FOR USE UNDER OR INSIDE THE FOUNDATION).
6. LATERAL DEPTH OF SANITARY SEWER SERVICE AT PROPERTY LINE SHALL ACCOMMODATE EXISTING SEWER LATERAL OR FUTURE BUILDING SITE(S). SEE STANDARD 213.
7. IF SEWER LATERAL IS LESS THAN 12" FROM FOUNDATION, SEWER LATERAL SHALL EITHER BE IRON PIPE OR A.B.S. SLEEVED IN IRON. IF SEWER LATERAL PASSES THROUGH THE FOUNDATION WALL, PIPE SHALL BE IRON AND THERE SHALL BE AT LEAST A 1" GAP IN CONCRETE AROUND PIPE. THIS GAP SHALL BE SEALED WITH FOAM.
8. CLEANOUT CONSTRUCTED OF "WYE" FITTING AND CAP OF SAME MATERIAL AS PIPE SHALL BE CONSTRUCTED WITHIN 2' TO 5' OF BUILDING FOUNDATION. AN ADDITIONAL
9. CLEANOUT SHALL BE REQUIRED FOR EVERY 100' OF PIPE AND FOR EACH AGGREGATE BEND OF 135°.
10. IF SEWER LATERAL DIFFERS IN MATERIAL OR SIZE FROM REST OF LINE, A COUPLING, NON-SHEAR, EAITHER MISSION FLEX SEAL, ROMAC INDURTRIES LSS1, OR APPROVED EQUAL IS REQUIRED. FOR LSS1 COUPLING, MINIMUM LENGTH IS 8" FOR A 4" DIA PIPE AND 12" FOR A 6" DIA PIPE.

1/B4 SANITARY SEWER CONNECTION, CUSTOMER SERVICE LINE DETAIL

NOT TO SCALE



NOTES:

1. HDPE, C900 OR SDR 32.5 SEWER PIPE SHALL BE INSTALLED FOR THE LENGTH SHOWN FOR ALL SANITARY SEWER CROSSINGS AS DIRECTED BY THE ENGINEER.
2. FROM SDR 35 TO C900 AND C900 TO SDR 35 JOINTS SHALL BE TRANSITION BELL PVC ADAPTER, INSTALLED PER THE MANUFACTURERS RECOMMENDATION.
3. FROM SDR 35 TO HDPE AND HDPE TO SDR 35 JOINTS SHALL BE TRANSITION FITTING OR LSS-1, STAINLESS NON-SHEAR COUPLING, INSTALLED PER THE MANUFACTURERS RECOMMENDATION.
4. A FULL LENGTH OF WATER PIPE SHALL BE CENTERED UNDER OR OVER THE SANITARY SEWER PIPE AT ALL CROSSINGS. THE TEN FOOT MEASUREMENT SHALL BE TAKEN PERPENDICULAR TO THE WATER PIPE JOINT.

2/B4 SANITARY SEWER SERVICE CROSSING DETAIL

NOT TO SCALE

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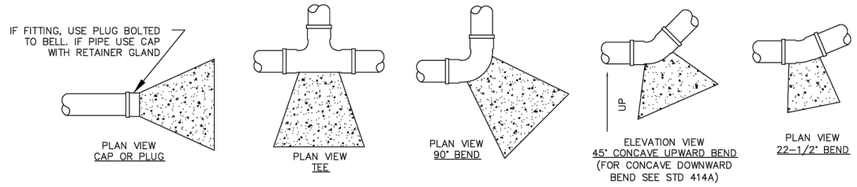


PIPE SIZE	TEES, CAPS, & PLUGS		90° BENDS		ALTERNATIVE RESTRAINED LENGTH IN ALL DIRECTIONS (FEET) – SEE NOTE 5		
	MIN. CONCRETE VOL. (YD;)	MIN. BEARING AREA (FT5)	MIN. CONCRETE VOL. (YD;)	MIN. BEARING AREA (FT5)	TEES	90° BENDS	CAPS & PLUGS
4"	0.1	1.7	0.1	2.4	11	16	33
6"	0.2	3.5	0.4	4.9	15	23	47
8"	0.5	6.0	0.9	8.5	20	30	62
10"	1.0	9.1	1.7	12.8	24	37	74
12"	1.7	12.8	2.9	18.1	29	44	88
14"	2.6	17.2	4.5	24.4	33	50	100
16"	3.9	22.3	6.6	31.5	38	57	113
18"	5.5	28.0	9.2	39.6	42	63	126
20"	7.5	34.4	12.5	48.6	47	70	138
24"	12.7	49.0	21.4	69.3	56	83	162

SMALL ANGLE ADJUSTMENT	
FOR ANGLES LESS THAN 90° MULTIPLY VOLUMES, AREAS, AND LENGTHS FOR 90° ANGLE BY THIS FACTOR	
ANGLE	FACTOR
45°	0.414
22–1/2°	0.199
11–1/4°	0.098

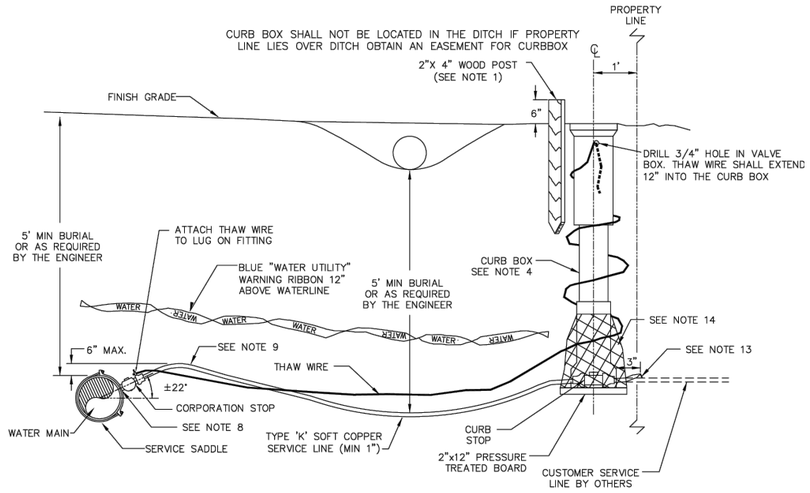
NOTES

1. CENTER OF MASS OF THRUST BLOCK MUST LAY OPPOSITE TO AND ALIGNED AGAINST THE DIRECTION OF THRUST.
2. THRUST BLOCKS SHALL BE POURED SO THAT JOINTS OF FITTINGS, INCLUDING ALL NUTS AND FOLLOWERS REMAIN ACCESSIBLE.
3. CONCRETE THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH. UNSTABLE OR UNSUITABLE MATERIALS SHALL BE REMOVED, REPLACED AND/OR COMPACTED AS DETERMINED BY THE ENGINEER.
4. VOLUME AND BEARING SURFACE OF 2500 P.S.I. CONCRETE THRUST BLOCKS ARE BASED ON 150 P.S.I. WATER PRESSURE AND SOIL BEARING CAPACITY OF 2000 P.S.F. ALL OTHER PRESSURE AND/OR SOIL CONDITIONS ARE SUBJECT TO THE ENGINEER'S REVIEW AND APPROVAL.
5. THRUST BLOCKS MAY BE OMITTED IF ALL JOINTS WITHIN MINIMUM DISTANCE GIVEN BY ABOVE TABLE ARE RESTRAINED AND PIPE IS BEDDED IN SAND. THE DISTANCES APPEARING IN THE TABLE ASSUME THAT THE PIPE IS BURIED AT LEAST 5' DEEP AND THAT SOIL CONDITIONS ARE AS LISTED IN NOTE 4. THE INFORMATION IN THE TABLE IS BASED ON DIPRA'S "THRUST RESTRAINT FOR DUCTILE IRON PIPE" WHICH SHOULD BE CONSULTED IF THESE ASSUMPTIONS ARE NOT MET. SUBJECT TO THE CONDITIONS LISTED IN NOTE 4, A COMBINATION OF A SMALLER THRUST BLOCK AND A REDUCED LENGTH OF RESTRAINED PIPE IS ALLOWED PER THE FOLLOWING FORMULA:

$$\frac{\text{ACTUAL BEARING AREA OF BLOCK}}{\text{BEARING AREA REQUIRED BY TABLE}} + \frac{\text{ACTUAL RESTRAINED LENGTH OF PIPE}}{\text{RESTRAINED LENGTH REQUIRED BY TABLE}} \geq 1.1$$

6. THRUST BLOCKS ARE REQUIRED FOR ALL BENDS, TEES, PLUGS, AND CAPS IN PIPE 4" AND LARGER EXCEPT AS LISTED IN NOTE 5.
7. REGARDLESS OF SIZE OF THRUST BLOCKS ALL JOINTS AT CAPS, PLUGS, BENDS, AND TEES MUST BE RESTRAINED.
8. RESTRAINED LENGTHS USED IN PLACE OF THRUST BLOCKS IN STANDARDS 414A AND 414B MAY NOT OVERLAP.
9. FIELD–LOCK GASKETS, MEGA–LUG AND UNIFLANGE COUPLINGS ARE THE ONLY APPROVED MEANS OF RESTRAINING PIPE.

1 / B5 THRUST BLOCK DETAIL
NOT TO SCALE



NOTES:

1. AT CURB STOP MARK CURB BOX WITH BLUE 2' X 4" WOOD POST OR MARK "W" ON CONCRETE CURB ABOVE THE SERVICE LINE OR CONNECT TO EXISTING LINE.
2. USE MUELLER CORPORATION STOP NO. B25025, FORD CORPORATION STOP NO. FB700–4, OR APPROVED EQUAL. CORPORATION STOP SHALL BE MALE IRON PIPE THREAD INLET BY FLARED COPPER OUTLET.
3. USE MUELLER CURB STOP NO. H15201, OR NO. H15204, FORD CURB STOP B22–444 OR APPROVED EQUAL.
4. CURB BOX SHALL BE KEJRIWAL PACIFIC 145R 49"–62" LID, TOP, MIDDLE AND BOTTOM OR APPROVED EQUIVALENT.
5. ALL COPPER TUBE CONNECTIONS FOR 1" TO 2" PIPE SHALL BE FLARED UNIONS. MUELLER 100 OR FORD GRIP JOINT COMPRESSION FITTINGS MAY BE USED FOR REPAIR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON 3/4" TO 2" COPPER PIPE. WHEN COMPRESSION FITTINGS ARE USED FOR REPAIR, A CONTINUITY TEST SHALL BE REQUIRED.
6. THAW WIRE SHALL BE WOUND AROUND OUTSIDE OF CURB BOX AND EXTEND 12" INTO THE CURBBOX THROUGH A DRILLED 3/4" HOLE.
7. ALL SERVICES MUST HAVE A MINIMUM OF 5' OF COVER BELOW EXISTING CULVERTS AND DITCHES. ADDITIONAL DEPTH MAY BE REQUIRED BY THE ENGINEER.
8. HOLE DRILLED IN THE MAIN FOR THE CORPORATION STOP SHALL BE THE SAME DIAMETER AS THE SERVICE PIPE.
9. PROVIDE AN ADDITIONAL 12" OF SERVICE PIPE BEYOND STRAIGHT LINE LENGTH REQUIRED. LOOP AS SHOWN AT THE CORP STOP. MAINTAIN 5' MINIMUM BURIAL AT HIGH POINT OF SERVICE LINE.
10. MAINTAIN A MINIMUM OF 18" OF SEPARATION BETWEEN VALVE BOXES, AND BETWEEN VALVE BOXES AND OTHER STRUCTURES.
11. CURB BOXES IN PAVED DRIVEWAYS SHALL CONFORM WITH STANDARD 419.
12. ALL NEW SERVICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY AND CURB BOX LOCATION WITH SWING–TIES DELIVERED TO THE ENGINEER.
13. CONNECT A SCRAP PIECE OF COPPER TO THE CURB STOP AND EXTEND A MINIMUM OF 3" BEYOND THE CURB BOX AND CRIMP END.
14. WRAP BOTTOM OF CURB BOX WITH FABRIC OR PLASTIC PRIOR TO BACKFILLING TO KEEP MATERIAL FROM INFILTRATING THE BOX.

2 / B5 WATER SERVICE DETAIL
NOT TO SCALE

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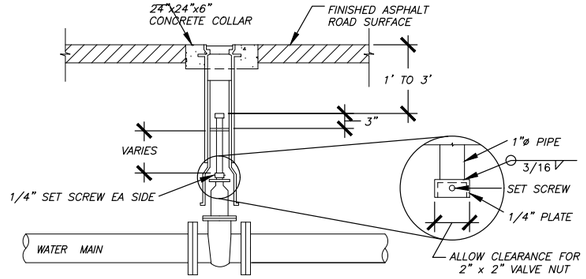
06 of 14

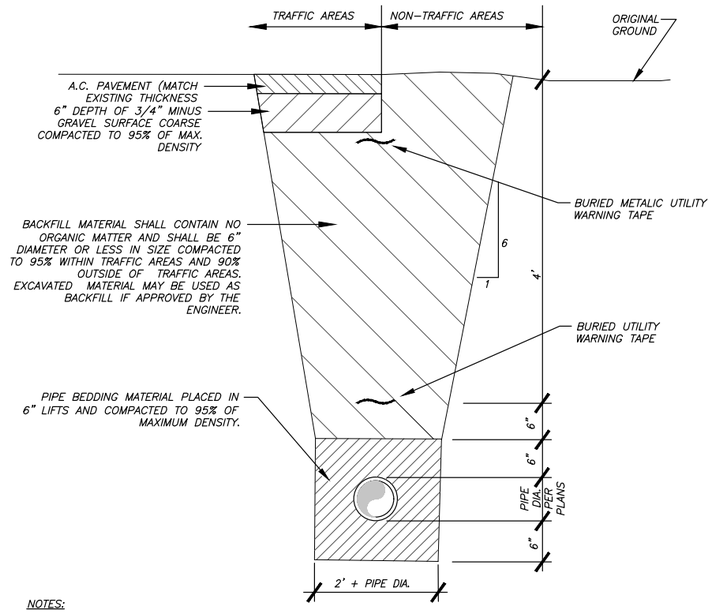


NOTE: EXTENSION IS REQUIRED ON ALL VALVES WHERE OPERATING NUT IS 6 FT OR MORE BELOW FINISHED SURFACE.

NOTES:

1. NEW VALVE BOX TO ALLOW FOR 12" MINIMUM VERTICAL ADJUSTMENT
2. THREADED VALVE BOX SECTIONS ARE NOT ALLOWED. CONTRACTOR SHALL REMOVE THREADED PORTIONS OF THE VALVE BOX WITH CUT-OFF SAW
3. CONTRACTOR SHALL APPLY GREASE TO ALL INTERFACES BETWEEN VALVE BOX SECTIONS.
4. COMPACTION AROUND VALVE BOX INSTALLATION IS CRITICAL. CONTRACTOR SHALL EMPLOY MECHANICAL TAMPING METHODS TO ENSURE THAT MATERIAL AROUND VALVE BOX REACHES 95% OF MAXIMUM COMPACTION.
5. CONTRACTOR SHALL INSTALL A 6" MINIMUM THICKNESS OF D-1 BEDDING AROUND VALVE BOX DURING BACKFILL.
6. EXTENSION IS REQUIRED ON ALL VALVES WHERE OPERATING NUT IS 4.5' OR MORE BELOW FINISHED SURFACE.

1 / B6 TYPICAL MAIN LINE VALVE W/OPERATING ROD DETAIL
NOT TO SCALE



NOTES:

1. BACKFILL MATERIAL SHALL BE PLACED IN 12" MAXIMUM LIFTS.
2. TRENCH EXCAVATION AND SHORING SHALL COMPLY WITH LOCAL, STATE, AND OSHA REGULATIONS AND REQUIREMENTS.
3. INDICATED SLOPE IS FOR PAY QUANTITY DETERMINATION ONLY FOR IMPORTED BACKFILL GRAVEL AND RESURFACING REQUIREMENTS.
4. IF UNSUITABLE PIPE FOUNDATION MATERIAL IS ENCOUNTERED DURING EXCAVATION, ENGINEER MAY DIRECT THE CONTRACTOR TO OVER-EXCAVATE AND BACKFILL WITH SUITABLE MATERIAL.
5. THE DITCH LINE, IF ONE EXISTS, SHALL BE RESHAPED IN SUCH A MANNER TO ALLOW POSITIVE DRAINAGE TO MATCH PRE-CONSTRUCTION CONDITIONS.

2 / B6 TYPICAL TRENCH DETAIL
NOT TO SCALE

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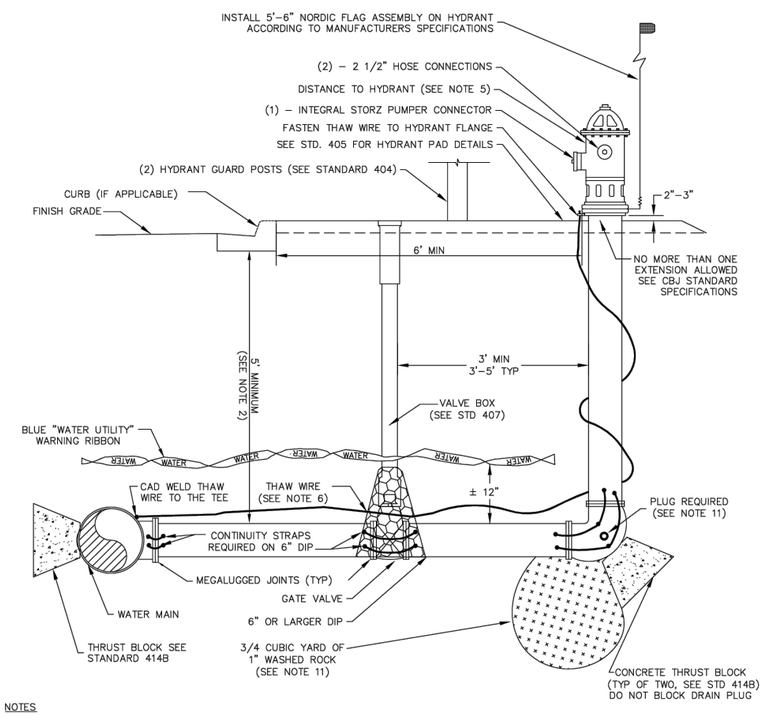
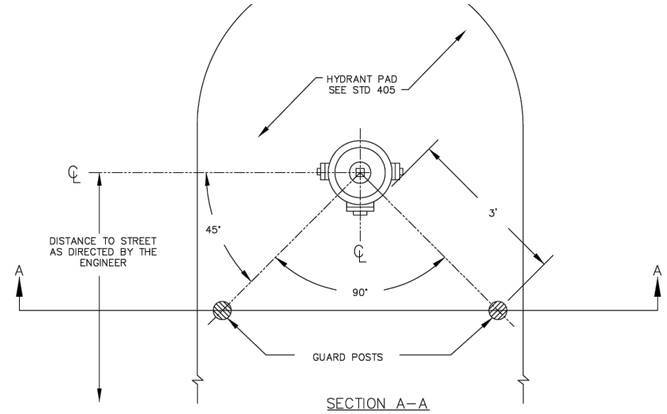


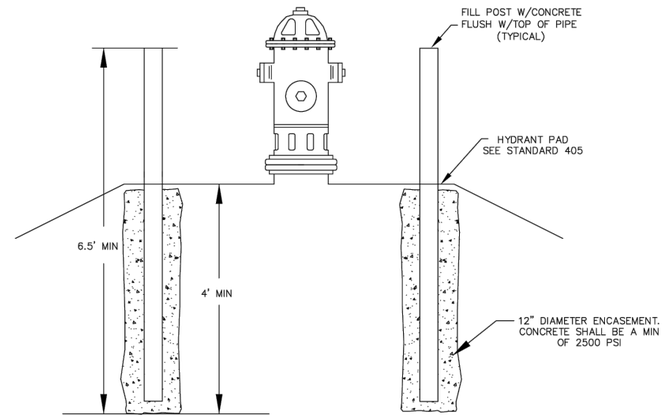
NOTES

1. HYDRANT BARREL AND VALVE BOX SHALL BE PLUMB.
2. GROUND COVER SHALL BE 5' MINIMUM. ADDITIONAL COVER (MORE THAN 5') MAY BE REQUIRED BY THE ENGINEER.
3. WATER PIPE SHALL BE 6" MIN. D.I.P. AND ALL CONNECTIONS SHALL BE MEGALUGED OR CONNECTED WITH LOCKING FIELD GASKETS.
4. BENDS BETWEEN THE HYDRANT AND THE MAIN SHALL NOT EXCEED 11 1/4° UNLESS APPROVED BY ENGINEER.
5. ALL HYDRANTS SHALL BE PAINTED CATERPILLAR YELLOW, AND THE NUMBER OF FEET TO VALVE SHALL BE PRINTED IN BLACK 1/2" BLOCK LETTERS JUST BELOW TOP BONNET. PORT CAPS SHALL BE COLOR CODED PER NFPA STANDARD 291 AS DIRECTED BY THE CBJ WATER UTILITIES DEPARTMENT.
6. THAW WIRE SHALL BE #2 COPPER WITH TYPE THW INSULATION. THAW WIRE SHALL BE BOLTED OR CAD WELDED TO THE TEE AT THE MAIN. CONTINUITY STRAPS ARE REQUIRED ON 6" DIP. CONTINUITY AND ARRANGEMENT FOR TESTING BY CBJ WATER UTILITIES IS THE RESPONSIBILITY OF THE INSTALLER/CONTRACTOR.
7. INSTALL A PAVED HYDRANT PAD PER STANDARD 405 AND GUARD POSTS PER STANDARD 404.
8. HYDRANT SHALL BE MUELLER CENTURION 200 OR 250 WITH INTEGRAL STORZ PUMPER CONNECTION OR APPROVED EQUAL. CLOW F2500 SERIES HYDRANTS ARE NO LONGER ACCEPTED BY CBJ.
9. THIS STANDARD TO BE USED FOR ALL HYDRANTS AND BLOW–OFFS. ALTERNATE BLOW–OFF TYPE HYDRANTS ARE NO LONGER ACCEPTED BY CBJ.
10. FIRE HYDRANT TO THE VALVE SHALL BE TESTED TO A MINIMUM OF 200 PSI FOR TWO (2) HOURS PER STANDARD SPECIFICATION SECTION 02601 ARTICLE 3.5 PARAGRAPH B 2.
11. CBJ WATER UTILITIES DEPARTMENT SHALL DETERMINE FOR EACH HYDRANT INSTALLATION IF HYDRANT PLUGS SHALL BE REMOVED FOR SELF DRAINING. DO NOT BLOCK PLUG WITH THE THRUST BLOCK.

1 / B7 FIRE HYDRANT DETAIL
NOT TO SCALE



SECTION A–A



ELEVATION VIEW

NOTES

1. GUARD POST ARE REQUIRED ON ALL HYDRANTS EXCEPT THOSE IN SIDEWALKS, ALONG STATE HIGHWAYS OR AS DIRECTED BY THE ENGINEER.
2. GUARD POST SHALL BE 4" DIAMETER, SCHEDULE 40 STEEL PIPE WITH A MINIMUM 4 FEET OF BURIAL AND 2–1/2 FEET OF EXPOSURE.
3. POSTS SHALL BE FILLED FLUSH WITH CONCRETE AND PAINTED WITH 4C–184 CATERPILLAR YELLOW ENAMEL AFTER INSTALLATION.
4. POSTS SHALL NOT BLOCK OPERATION OF VALVE.

2 / B7 HYDRANT GUARD POST DETAILS
NOT TO SCALE

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

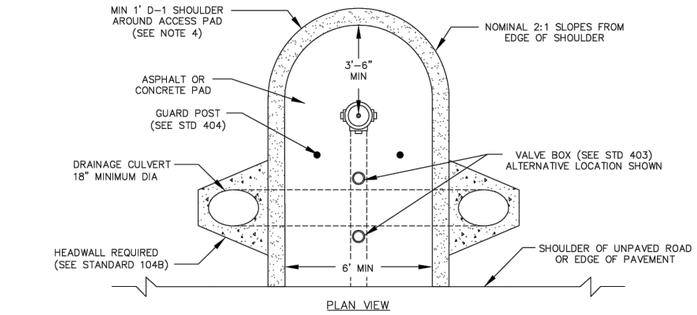
R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

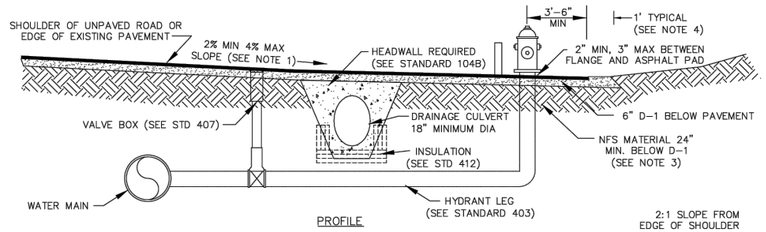
SHEET DESCRIPTION:
TYPICAL SECTIONS

B7

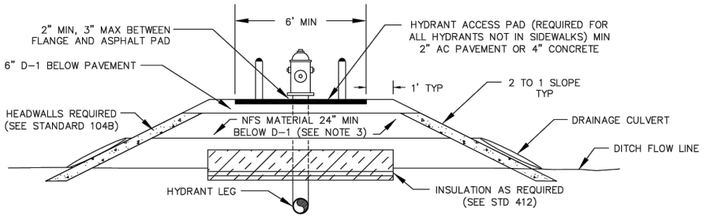
SHEET:
08 of 14



PLAN VIEW



PROFILE



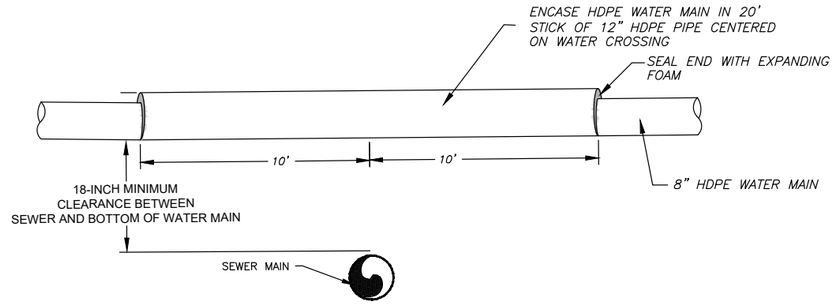
ELEVATION VIEW

NOTES:

1. FROM EDGE OF ROAD TO DITCH LINE, SLOPE SURFACE OF HYDRANT PAD TO MATCH EXTENSION OF ROADWAY CROWN.
2. SEED SIDE SLOPES IN ACCORDANCE WITH SECTION 02710.
3. NFS BACKFILL AND D-1 IN PAD SHALL CONFORM WITH MATERIALS AND COMPACTION REQUIREMENTS OF STANDARD 102A.
4. EXTEND LAYER OF D-1 TO EDGE OF PAD SHOULDER MINIMUM 1 FOOT.
5. 1 FOOT MINIMUM OFFSET FROM EDGE OF PAVEMENT TO TOP OR TOE OF SLOPE.
6. NO HEADWALLS ARE TO BE CONSTRUCTED WITHIN THE ADOT RIGHT-OF-WAY UNLESS APPROVED BY THE ENGINEER.
7. MINIMUM 2" AC PAVEMENT OR 4" CONCRETE REQUIRED ON ALL HYDRANT PADS.

1 / B8 HYDRANT PAD DETAIL

NOT TO SCALE



NOTE 1: CARRIER PIPE SHALL BE PAID UNDER THE 12" WATER LINE BID ITEM

NOTE 2: PIPE BEDDING WILL BE ADOT&PF GRADATION D-1 AS SPECIFIED.

NOTE 3: CONTRACTOR TO ENSURE THE MAIN IS NOT RESTING DIRECTLY ON THE CARRIER PIPE.

2 / B8 SEWER/WATER/STORM CROSSING DETAILS

NOT TO SCALE

REVISIONS:
REV 1: WATER AND SEWER PROFILES.

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SHEET DESCRIPTION:
TYPICAL SECTIONS

B8

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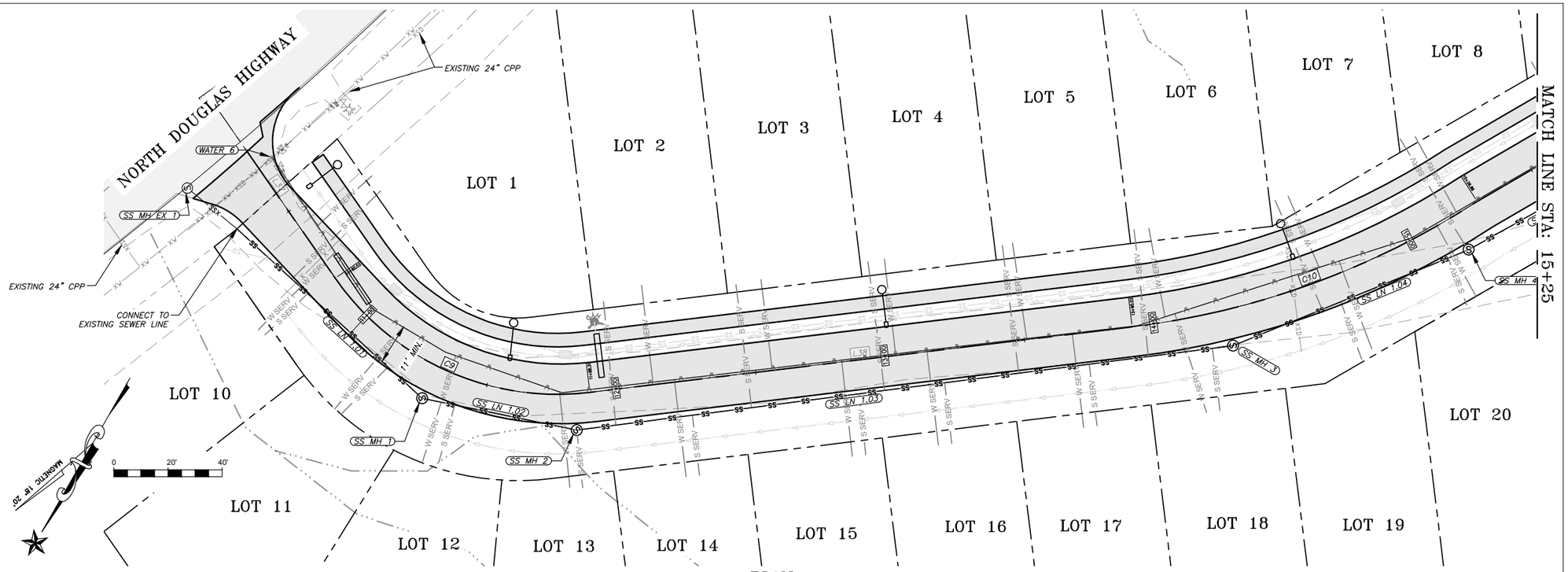
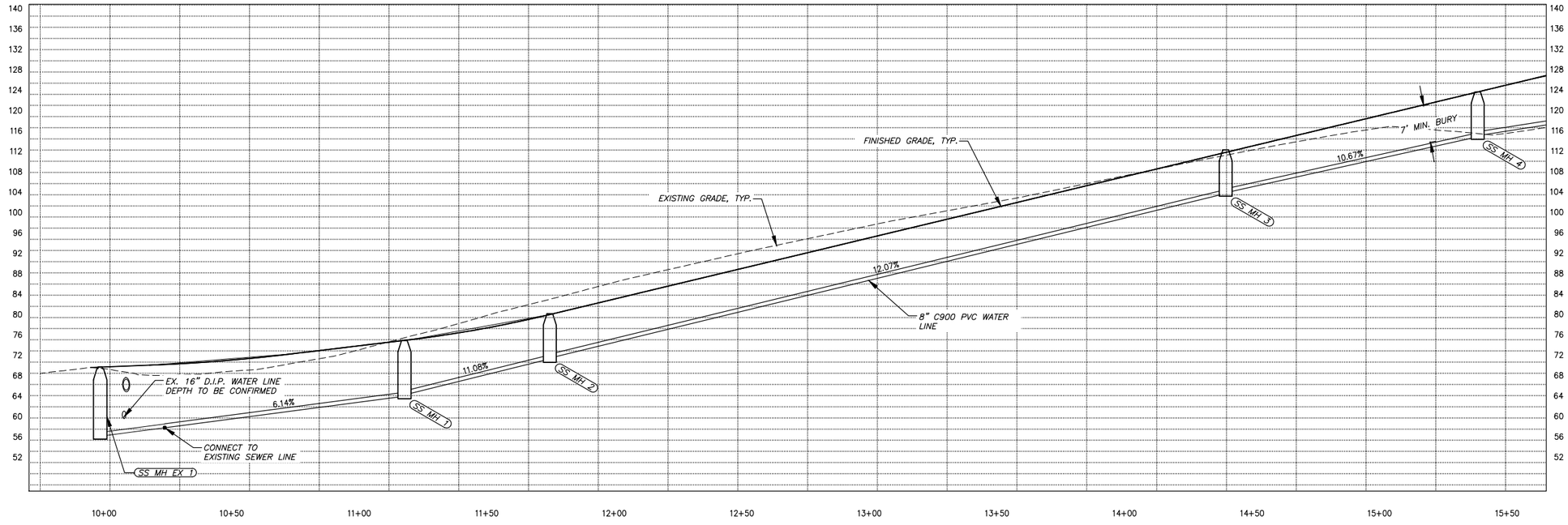


PLAN



PROFILE

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REV 1: WATER AND SEWER PROFILES

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SHEET DESCRIPTION:
PLAN AND PROFILE

U1

SHEET:
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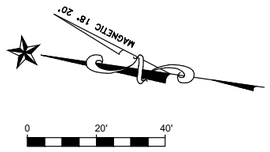
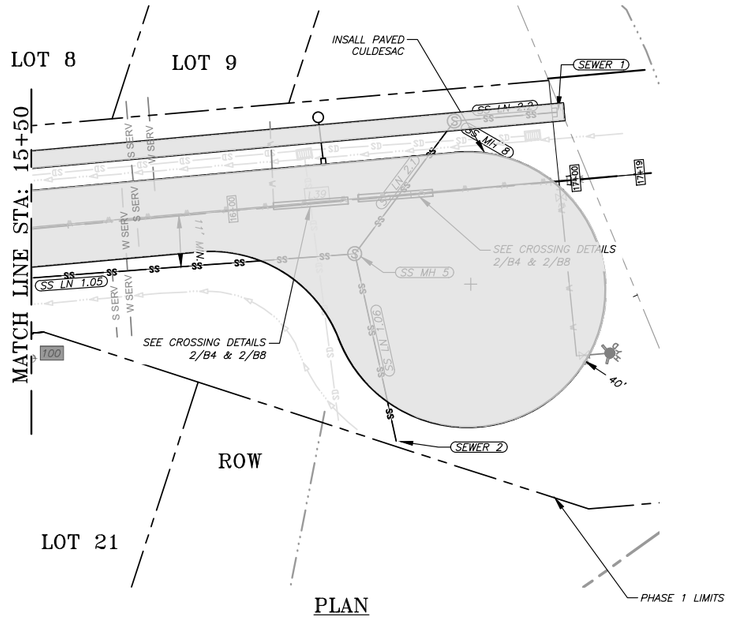
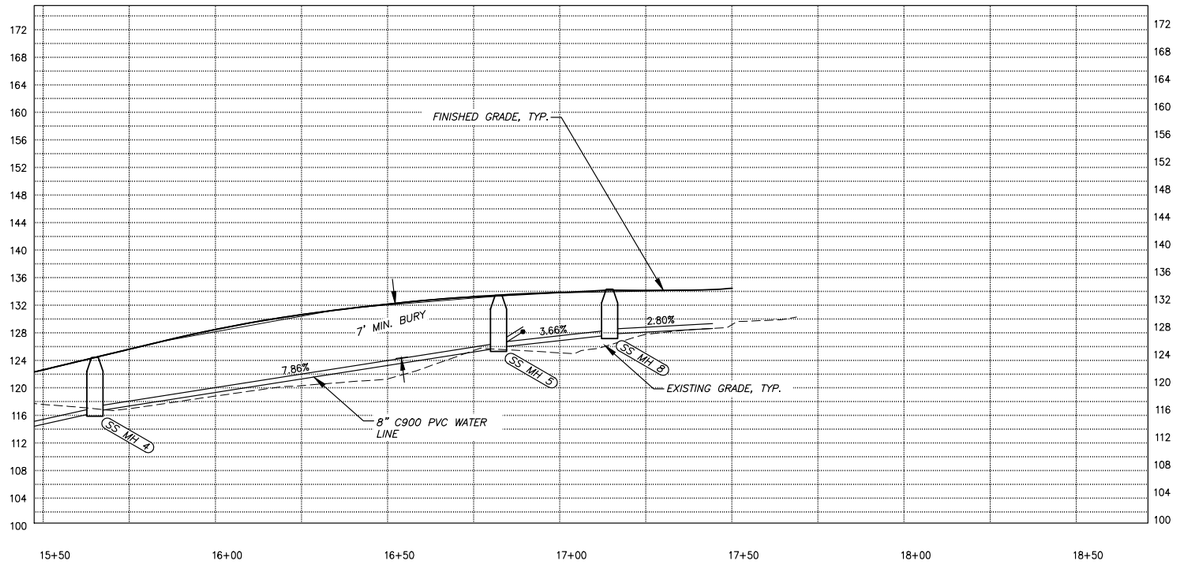




PLAN



PROFILE

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REV 1: WATER AND SEWER PROFILES

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UTILITY DESIGN

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AELC 576

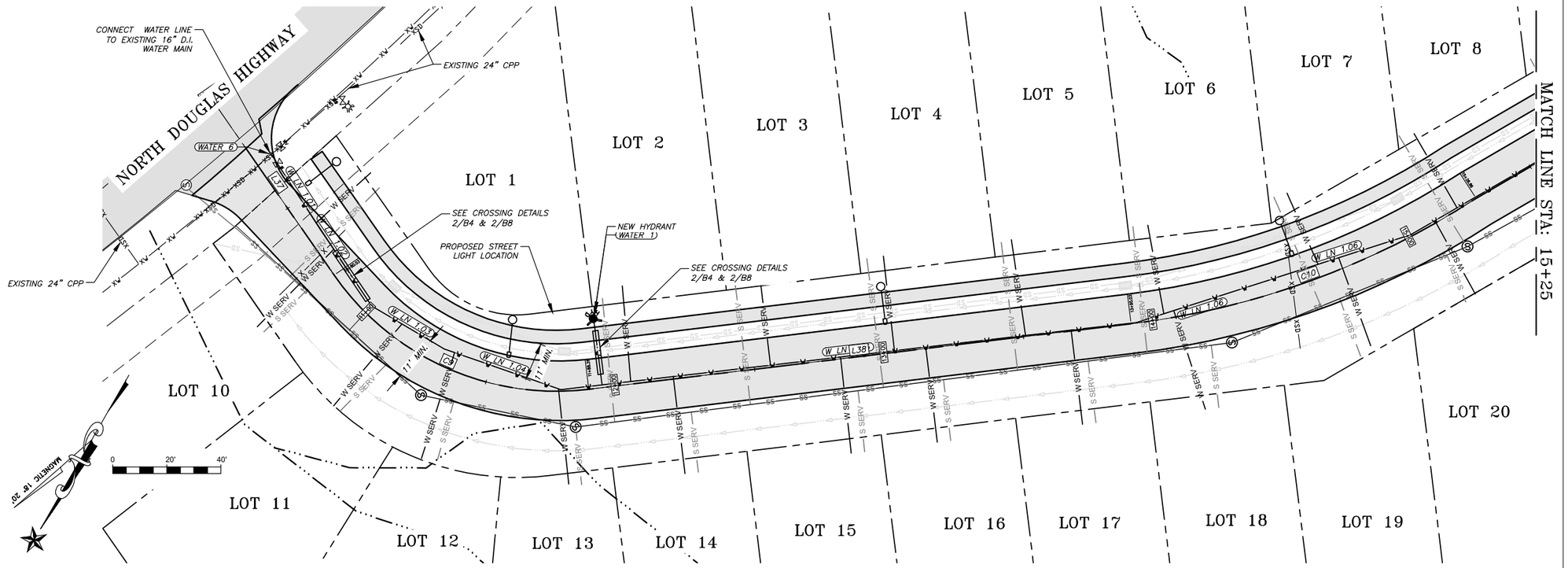
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PLAN AND PROFILE

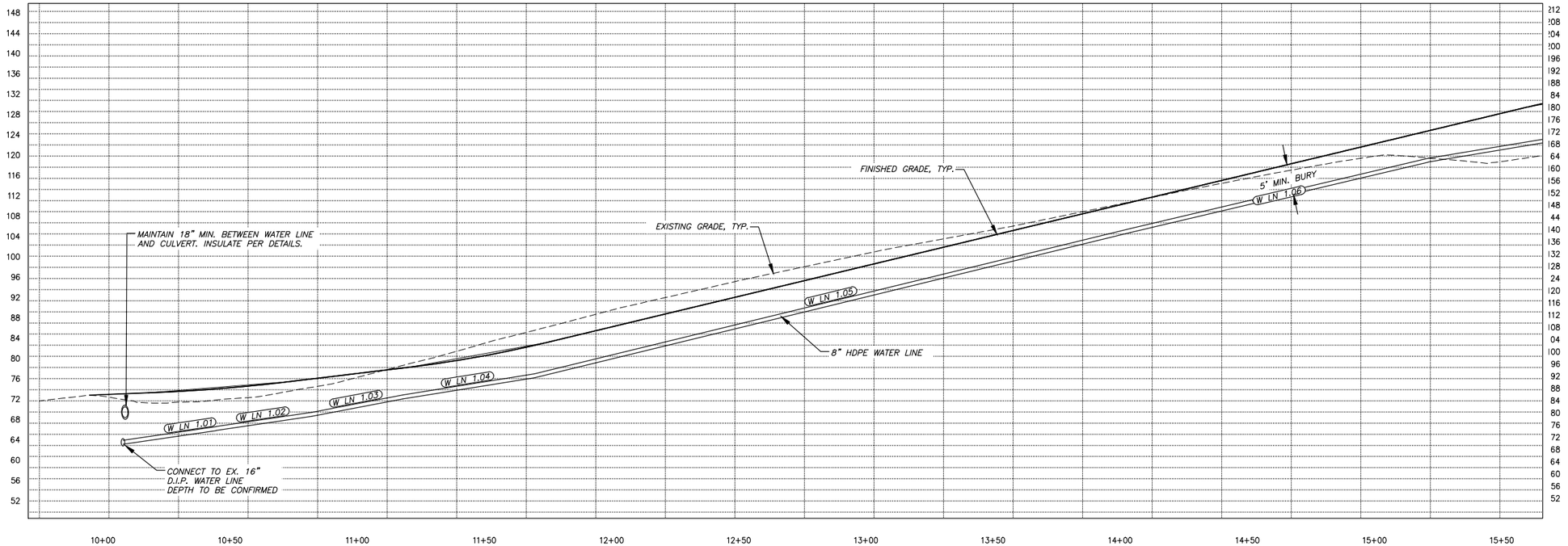
U2

SHEET:
12 of 14

PLAN



PROFILE



REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

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PH: 907.225.7187
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STATE OF ALASKA
49th
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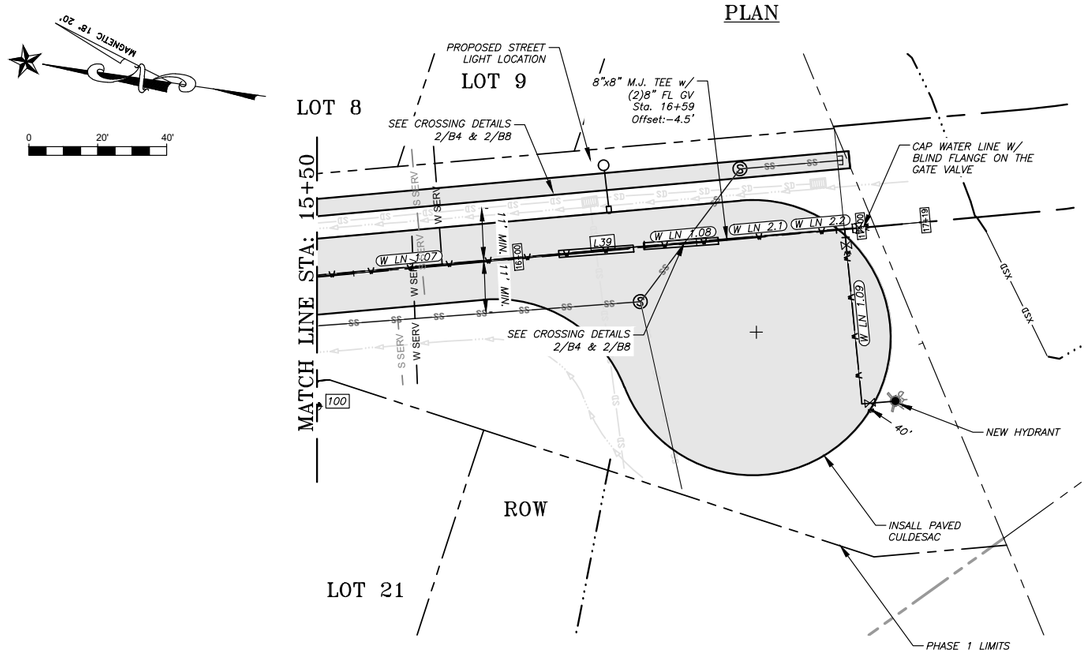
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PLAN AND PROFILE

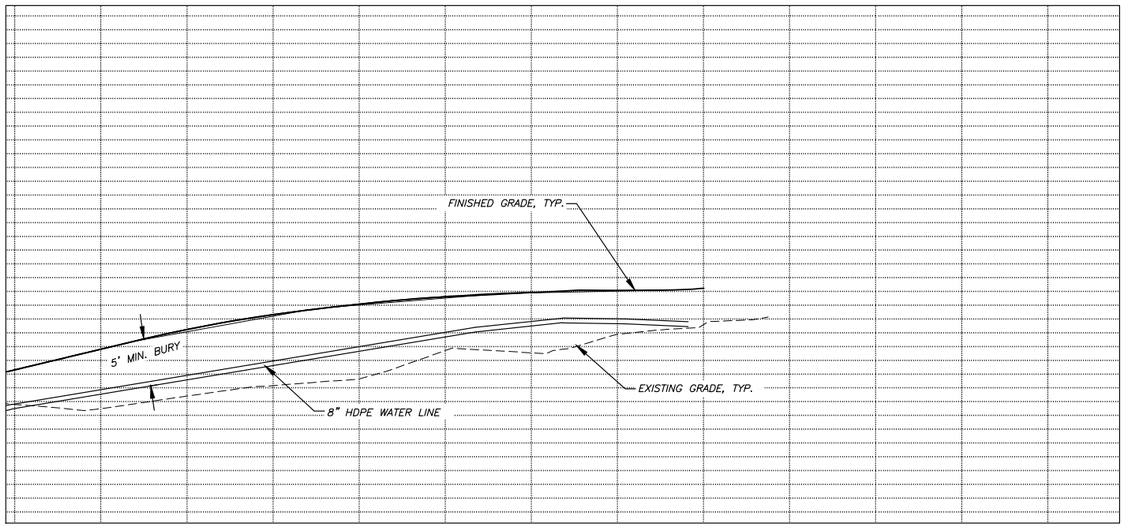
W1

SHEET:
13 of 14

PLAN



PROFILE



REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
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DRAWN BY: TS
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DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7160 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CR 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

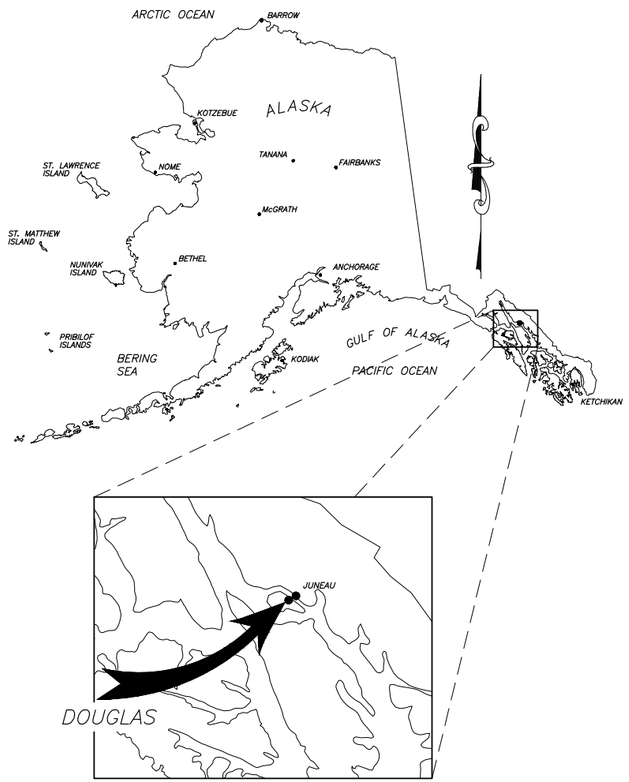
SHEET DESCRIPTION:
PLAN AND PROFILE

W2

SHEET:
14 of 14

SÉET KANAX DUTÉ_EN SUBDIVISION PHASE 1

SHÉI_X'W DEIYÍ STREET DESIGN PERMIT SET



PROJECT LOCATION MAP
NOT TO SCALE

PROJECT VICINITY MAP
NOT TO SCALE

SHEET INDEX	
A1	TITLE SHEET
A2	LEGEND AND GENERAL NOTES
A3–A4	CIVIL SPECIFICATIONS
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S1–S5	ROADWAY SECTION VIEWS

PROJECT NARRATIVE

THE SEET KANAX DUTEEN SUBDIVISION IS A PROPOSED SUBDIVISION THAT WILL SUBDIVIDE TRACT II, A FRACTION OF USS 2135 INTO (21) SMALLER PARCELS FOR THE PURPOSE OF BUILDING RESIDENTIAL HOMES. THIS PROJECT CONSISTS OF RIGHT OF WAY IMPROVEMENTS WITHIN THE SEET KANAX DUTEEN SUBDIVISION. THESE IMPROVEMENTS INCLUDE THE CONSTRUCTION OF A PAVED ROAD WAY WITH CONCRETE SIDEWALK, LIGHTING, AND DRAINAGE. SEWER AND WATER PLANS ARE PUBLISHED AS SEPARATE DRAWINGS.

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̲'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
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R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
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PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
REGISTERED ENGINEER
TREVOR SANDE
CE 9778
2/11/2026
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TITLE SHEET

A1

SHEET:
01

GENERAL NOTES

HORIZONTAL DATA:

1) THE HORIZONTAL CONTROL IN THIS DRAWING ARE LOCAL GRID COORDINATES AT GROUND.

VERTICAL DATA:

1) ELEVATIONS DETERMINED ON THIS PROJECT ARE ASSUMED.

GENERAL NOTES:

1) THE PROFILES SHOWN IN THESE PLANS HAVE A VERTICAL EXAGGERATION OF 2.0 UNLESS OTHERWISE NOTED.
2) ALL TRENCHING, COMPACTION, AND AGGREGATES SHALL BE COMPLETED IN ACCORDANCE WITH THE CITY & BOROUGH OF JUNEAU STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
3) WASTEWATER SYSTEM CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY & BOROUGH OF JUNEAU STANDARD SPECIFICATIONS, AND ADEC REGULATIONS AS CONTAINED IN 18-AAC-72, WASTEWATER DISPOSAL.
4) MAINTAIN MINIMUM 10 FOOT HORIZONTAL, AND 18 INCH VERTICAL SEPARATION BETWEEN SEWER AND WATER MAIN LINES AT ANY POINT UNLESS OTHERWISE NOTED IN PLANS.
5) DO NOT CHANGE UTILITY DESIGN, LINE, GRADE, SIZE, MATERIALS, ETC. WITHOUT APPROVAL FROM THE DESIGN ENGINEER OR THE CITY AND BOROUGH OF JUNEAU.
6) SUBMITTALS – THE CONTRACTOR SHALL SUBMIT DATA SHEETS FOR ALL CONSTRUCTION MATERIALS TO THE CITY & BOROUGH OF JUNEAU PUBLIC WORKS DEPARTMENT AND OBTAIN WRITTEN APPROVAL FOR THE CONSTRUCTION MATERIALS PRIOR TO PURCHASING AND INSTALLING THEM. THE CONSTRUCTION MATERIALS INCLUDE BUT ARE NOT LIMITED TO ALL PIPE, FITTINGS, VALVES, CURB STOPS, CORPORATION STOPS, TAPPING SADDLES, MANHOLES, FRAMES & LIDS, CLEANOUTS, AND HYDRANTS.
7) THE CONTRACTOR SHALL ADHERE TO CITY & BOROUGH OF JUNEAU CODE 42.20.095(C) REGARDING NOISE POLLUTION AND SHALL APPLY FOR PERMITS WHEN APPROPRIATE.
8) THE CLEARING LIMITS FOR THIS PROJECT SHALL BE 5' OUTSIDE OF THE CUT/FILL BOUNDARY FOR THE ROAD CORRIDOR.

SOIL INVESTIGATION RESULTS

NO SOIL INVESTIGATION HAS BEEN CONDUCTED AT THIS TIME.

LEGEND

FEATURE DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		N/A
PROPERTY LINE (INFORMATIONAL)		N/A
CENTERLINE		
CONCRETE		
ASPHALT		
BUILDING LINE		
BUILDING OVERHANG		AS NOTED
EDGE OF ASPHALT/CONCRETE		(PATCH)
EDGE OF GRAVEL		N/A
TOP/TOE/DITCH (GENERAL)		
OVERHEAD UTILITY LINE	XOH XOH XOH XOH	N/A
UNDERGROUDN UTILITY LINE	UGP UGP UGP UGP	N/A
STORM DRAIN	XSD XSD XSD XSD	SD SD SD SD
SEWER LINE	XSS XSS XSS XSS	SS SS SS SS
SEWER LINE (RECORD)	SS(R) SS(R) SS(R)	N/A
SANITARY SEWER PRESSURE LINE	XFM XFM XFM	FM FM FM FM
SEWER SERVICE	N/A	S SERV S SERV S SERV
WATER LINE	XW XW XW XW	W W W W W
WATER SERVICE	N/A	W SERV W SERV W SERV
WATER LINE (RECORD)	W(R) W(R) W(R)	N/A
RAW SALTWATER LINE	SRAW SRAW SRAW	N/A
FUEL/GAS LINE	G G G G G	N/A
FENCE	X X X X X	
GUARD RAIL		N/A
MAJOR CONTOUR		
MINOR CONTOUR		
POSSIBLE UNKNOWN LINE DETECTED BY GPR	? ? ?	N/A

NOTE: LINE WEIGHTS VARY BETWEEN SHEETS

FEATURE DESCRIPTION	EXISTING	PROPOSED
UTILITY POLE		
GUY ANCHOR		N/A
CONTROL POINT (AS NOTED)		N/A
FOUND MONUMENT (AS NOTED)		N/A
STORM DRAIN MANHOLE		
STORM CATCH BASIN		
STORM CLEANOUT	CO	CO
SANITARY SEWER MANHOLE	S	S
SANITARY SEWER CLEANOUT	CO	CO
BOLLARD/POST (TYPE AS NOTED)		
WATER VALVE	WV	
FIRE HYDRANT		
LIGHT POLE		N/A
ELECTRICAL METER	EM	N/A
SIGN		N/A
TEST PIT	TP	N/A
ROCK WALL		

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̲'W DEIY1 STREET DESIGN

STATUS:
PERMIT SET

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STATE OF ALASKA 49th
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CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
LEGEND

A2

SHEET:
02 of 22

GENERAL NOTE

ALL THE SPECIFICATIONS CONTAINED ON SHEETS ARE ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT CONTAINED HEREON ONLY. IN THESE SPECIFICATIONS, THE TERM "CONTRACTOR" REFERS TO THE PURCHASER OR A HIRED SUBCONTRACTOR FOR THE PURCHASER.

CONSTRUCTION SURVEYING

1.0 SCOPE OF WORK

A. THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS NECESSARY TO PERFORM ALL SURVEYING AND STAKING ESSENTIAL FOR THE COMPLETION OF CONSTRUCTION IN CONFORMANCE WITH THE PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PERFORM ALL THE NECESSARY WORK AND CALCULATIONS REQUIRED TO ACCOMPLISH THE WORK IN ACCORDANCE WITH THESE SPECIFICATIONS AND OTHER PORTIONS OF THE CONTRACT DOCUMENTS.

B. THIS SECTION IS INTENDED TO ESTABLISH A STANDARD MINIMUM LEVEL OF ACCEPTABLE FIELD SURVEY SPECIFICATIONS AND PROCEDURES TO PROPERLY CONTROL CONSTRUCTION PROJECTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURVEY METHODS AND PROCEDURES ARE FOLLOWED. ANY ERRORS RESULTING FROM THE SURVEY SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRACTOR AND AT NO ADDITIONAL EXPENSE TO THE OWNER. ANY METHOD CONFLICTING WITH THESE SURVEY SPECIFICATIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO ITS USE. ALL SURVEY WORK PERFORMED SHALL BE UNDER THE DIRECT SUPERVISION OF AN ALASKAN REGISTERED PROFESSIONAL LAND SURVEYOR.

1.1 PROJECT CONTROL

A. THE OWNER HAS PROVIDED REFERENCE HORIZONTAL AND VERTICAL CONTROL DATA TO FACILITATE CONSTRUCTION STAKING. HOWEVER IT IS THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH AND CHECK ALL SURVEY CONTROL PRIOR TO ANY STAKING ACTIVITY TO ENSURE THE PROJECT IS PROPERLY LOCATED AND CONSTRUCTED ACCORDING TO THE CONSTRUCTION DOCUMENTS. IF DISCREPANCIES ARE FOUND, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING AND PROTECTING ALL LINE STAKES, GRADE STAKES, REFERENCE POINTS, AND HUBS. IN THE EVENT OF THEIR LOSS OR DESTRUCTION, THE CONTRACTOR SHALL PAY ALL COSTS FOR THEIR REPLACEMENT. THE CONTRACTOR SHALL REPLACE ANY MONUMENT THAT EXISTS WITHIN THE CONSTRUCTION LIMITS, IF IT IS DISTURBED OR REMOVED DUE TO CONSTRUCTION PROJECT ACTIVITY. ALL MONUMENTS DISTURBED OR REMOVED SHALL BE REPLACED WITH THE SAME TYPE MONUMENT OR A MONUMENT APPROVED BY THE ENGINEER.

B. HORIZONTAL CONTROL ACCURACY

1. THE MAXIMUM PERMISSIBLE LINEAR ERROR ALLOWED IN ESTABLISHING HORIZONTAL CONTROL IS 1:5000 FEET. THE MAXIMUM ERROR ALLOWED IN UNADJUSTED ANGULAR CLOSURE SHALL BE CALCULATED BY THE FORMULA "30 X THE SQUARE ROOT OF N". THE TERM "N" SIGNIFIES THE NUMBER OF TRANSIT SET–UPS IN THE TRAVERSE AND "30" SIGNIFIES THIRTY SECONDS.

C. VERTICAL CONTROL

1. ELEVATIONS SHALL ORIGINATE FROM A NGS VERTICAL LEVEL LINE SYSTEM. ALL LEVEL CIRCUITS RUN TO ESTABLISH TEMPORARY BENCH MARKS SHALL HAVE AN ACCURACY NO LESS THAN THE VALUE COMPUTED BY THE EQUATION (0.03 FEET X THE SQUARE ROOT OF THE DISTANCE IN MILES). FORESIGHTS AND BACKSIGHTS SHALL BE BALANCED. THE MAXIMUM SIGHTING DISTANCE SHALL NOT EXCEED 300 FEET. ALL LEVELING CIRCUITS ESTABLISHING TBM'S WILL BE ADJUSTED UTILIZING RECOGNIZED STANDARD SURVEYING ADJUSTMENT METHODS. SIDE SHOTS TO ESTABLISH AN ELEVATION ON TBM'S WILL NOT BE ALLOWED.

2. A MINIMUM OF TWO KNOWN BENCH MARKS WILL BE UTILIZED WHEN ESTABLISHING TBM'S TO VERIFY CORRECT ELEVATION INFORMATION. A SUFFICIENT NUMBER OF TBM'S SHALL BE SET TO CONTROL A PROJECT WITH A MAXIMUM SPACING OF 800 FEET BETWEEN MARKS. A TBM TYPICALLY SHOULD NOT BE GREATER THAN 200 FEET OUTSIDE THE CONSTRUCTION LIMITS OF THE PROJECT. ALL TBM'S SHALL BE LOCATED AND BE COMPRISED OF SUFFICIENT MATERIALS SUCH THAT THEIR INTEGRITY WILL NOT BE COMPROMISED THROUGHOUT THE LIFE OF THE PROJECT.

1.2 CLEARING AND GRUBBING STAKES

A. THE CONTRACTOR SHALL STAKE THE CLEARING AND GRUBBING LIMITS FOR THE OWNERS REVIEW AND APPROVAL.

B. DISTANCES SHALL BE MEASURED TO THE NEAREST FOOT AND STANDARD LATH/FLAGGING SHALL BE PLACED TO CLEARLY DESIGNATE THE INTENDED LIMITS. INTERVALS FOR PLACEMENT OF LATH/FLAGGING SHALL VARY BASED ON THE TERRAIN AND FOILAGE DENSITY, SPACING OF 50 TO 100 FEET WILL GENERALLY BE ADEQUATE.

1.3 VERTICAL CUT STAKES, GRADE STAKES, AND FINISHING STAKES

A. VERTICAL CUT/FILL STAKES MAY BE USED WHERE THE DESIGN PRISM DOES NOT CONTAIN SLOPED SHOULDERS AND DITCHES AND A SLOPE STAKE WOULD NOT BE NEEDED. THE REFERENCE POINT SHALL BE A STANDARD WOOD HUB ACCOMPANIED BY A MINIMUM 3 FOOT LENGTH LATH WITH THE CUT, DISTANCE TO THE CUT POINT, DESCRIPTION OF THE POINT BEING CUT TO, AND A DISTANCE FROM CONSTRUCTION CENTERLINE TO THE STAKE. THE CENTERLINE STATION SHALL BE WRITTEN ON THE BACK OF THE LATH. CUTS SHALL BE GIVEN TO THE NEAREST 0.1 FEET. THE STAKES SHALL BE SET AT THE SAME POINTS THAT WERE IDENTIFIED FOR THE SLOPE STAKES IN SUBSECTION 1.8. A RECORD OF THE STAKING ELEVATIONS, THE DESIGNED GRADE, THE LOCATION OF STAKES, THE CENTERLINE STATION OF THE STAKE AND FEATURE WHICH IS BEING STAKED SHALL BE MADE IN THE SURVEY FIELD BOOK.

B. FINISH GRADE HUBS (BLUETOPS) SHALL BE SET TO VERIFY THE DESIGN PRISM IS AT THE CORRECT ELEVATION PRIOR TO THE PLACEMENT OF FINAL LIFT COURSE MATERIAL. WOODEN HUBS, PAINTED OR TOPPED WITH COLORED WHISKERS SHALL BE SET AT THE TOP OF CLASSIFIED FILL, WITHIN 0.2 FEET TOLERANCE. FOR THE LTF AREA STAKED HUBS WILL BE SET ON A 50 FOOT GRID PATTERN UNLESS APPROVED OTHERWISE BY THE ENGINEER. THE FIELD BOOK SHALL CONTAIN THE GRADING POINT NUMBER, THE DESIGN FINISH GRADE ELEVATION OF THE POINT STAKED, THE ELEVATION SHOT THE HUB WAS SET AT, AND A DESCRIPTION OF THE POINT BEING STAKED.

1.4 DRAINAGE FACILITY STAKING

A. THE LOCATION, TYPE, SIZE, LENGTH AND INVERT ELEVATIONS FOR DRAINAGE FACILITIES SHALL BE GIVEN ON THE CONSTRUCTION PLAN DRAWINGS. MINOR CHANGES IN LOCATIONS AND GRADES TO MEET EXISTING FIELD CONDITIONS MAY BE MADE WHERE NECESSARY, BUT ONLY WITH THE APPROVAL OF THE ENGINEER. IF A DISCREPANCY LARGE ENOUGH TO ADVERSELY AFFECT THE PLANNED DESIGN IS DISCOVERED THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY AND ALL GRADE STAKING ACTIVITY SHALL CEASE UNTIL FURTHER NOTICE.

B. A GROUND LINE PROFILE SHALL BE RUN PRIOR TO EXCAVATION OF DRAINAGE FACILITIES. THE GROUND LINE PROFILE SHALL BE THE ELEVATION OF THE GROUND DIRECTLY ABOVE THE CENTERLINE OF THE PIPE BEFORE TRENCHING OCCURS. THE CONTRACTOR SHALL STAKE THE ALIGNMENT OF PIPE, LOCATION OF STRUCTURES, AND REFERENCE GRADES FROM WHICH THE SYSTEM CAN BE BUILT.

C. DIKES/DITCHES SHALL BE STAKED TO THE ALIGNMENT, GRADE AND SLOPES SHOWN ON THE PLANS. DIKES/DITCHES SHALL BE SLOPE STAKED TO THE SHOULDER OR FLOW LINE OF THE IMPROVEMENT WITH DISTANCES REFERENCED TO THE IMPROVEMENT CENTERLINE.

1.5 MAJOR STRUCTURE STAKING

A. CONSTRUCTION SURVEY PROCEDURES SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO ANY CONSTRUCTION STAKING. HIS REVIEW AND APPROVAL IS NECESSARY FOR MAJOR STRUCTURES SUCH AS BRIDGES, DOCKS, PILING, DRAINAGE FACILITIES, AND LARGE BUILDINGS.

1.6 MISCELLANEOUS CONSTRUCTION STAKING

A. THE CONTRACTOR SHALL PROVIDE SUFFICIENT STAKES FOR THE ADEQUATE CONTROL OF ALL STRUCTURES AND INCIDENTAL CONSTRUCTION NOT SPECIFICALLY COVERED ABOVE. A STAKING DIAGRAM WITH RESPECT TO CENTERLINE AND MEASUREMENTS FOR PAY QUANTITIES SHALL BE MAINTAINED IN THE FIELD NOTES. OTHER ITEMS SUCH AS HORIZONTAL AND VERTICAL CONTROL SHALL BE SHOWN IN THE FIELD BOOK AND SHALL BE GOVERNED BY PROCEDURES ESTABLISHED IN PREVIOUS ARTICLES OF THIS SPECIFICATION.

FIELD ENGINEERING

1.1 DESCRIPTION OF WORK

THE INTENT OF THIS SECTION IS TO DELINEATE THE RESPONSIBILITY FOR DIFFERENT ASPECTS OF THE CONSTRUCTION SURVEYING ASSOCIATED WITH THE WORK.

1.2 SURVEY REFERENCE POINTS

A. ALL ELEVATIONS SHOWN ON THE PLANS ARE REFERENCED TO MEAN LOWER LOW WATER TIDE DATUM, BENCHMARKS FOR WHICH ARE ALSO OF RECORD.

B. ALL SURVEY AND LAYOUT WORK SHALL BE PERFORMED BY THE CONTRACTOR AS PART OF THE WORK. THE CONTRACTOR SHALL TRANSFER LINES AND GRADES FROM EXISTING CONTROL TO HIS OWN WORK AT HIS OWN EXPENSE.

PROJECT DATA SUBMITTALS

1.0 GENERAL

THE CONTRACTOR SHALL ASSEMBLE AND SUBMIT, TO THE ENGINEER, PROJECT DATA AND SAMPLES AS SPECIFIED IN EACH SPECIFICATION SECTION. THE PROJECT DATA AND SAMPLES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND CHECKING TO DETERMINE CONFORMANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS. THE REVIEW AND CHECKING BY THE ENGINEER WILL BE SPECIFICALLY LIMITED TO THE PROJECT DATA AND SAMPLES SPECIFIED IN THESE SPECIFICATIONS.

1.1 PROJECT DATA

PROJECT DATA AND SAMPLES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF PURCHASE ORDERS FOR EQUIPMENT AND MATERIALS. EQUIPMENT AND MATERIALS FOR WHICH PROJECT DATA AND SAMPLES ARE SPECIFIED, WHICH ARE CONSTRUCTED, INSTALLED OR INCORPORATED PRIOR TO REVIEW, CHECK AND APPROVAL BY THE ENGINEER MAY NOT BE ACCEPTED BY THE OWNER.

THE REVIEW BY THE ENGINEER OF PRODUCT DATA OR OTHER SUBMITTALS IS ONLY FOR CONFORMANCE WITH THE GENERAL DESIGN CONCEPT OF THE PROJECT AND DOES NOT EXTEND TO CONSIDERATION OF STRUCTURAL INTEGRITY, SAFETY, DETAILED COMPLIANCE WITH CONTRACT REQUIREMENTS OR ANY OTHER OBLIGATION OF THE CONTRACTOR. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR PREPARATION AND REVIEW OF ALL SHOP DRAWINGS CONFIRMING AND CORRELATING ALL DIMENSIONS; FABRICATING AND CONSTRUCTION TECHNIQUES; COORDINATING HIS OR HER WORK WITH THAT OF ALL OTHER TRADES; AND THE SATISFACTORY PERFORMANCE OF HIS OR HER ENTIRE WORK IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE REVIEW OF PROJECT DATA BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER OBLIGATION FULLY TO PERFORM ALL CONTRACT REQUIREMENTS, NOR SHALL SUCH REVIEW GIVE RISE TO ANY RIGHT OF ACTION OR SUIT IN FAVOR OF THE CONTRACTOR OR THIRD PERSONS, AGAINST THE ENGINEER OR THE OWNER.

1.2 MINIMUM REQUIREMENTS

A) SHOP AND SUPPLEMENTAL DRAWINGS SHALL BE ASSEMBLED, LABELED WITH REFERENCE TO SPECIFICATION SECTION AND/OR DRAWING NUMBER, DETAIL NUMBER AND LOCATION WITH THE DELIVERY DATE AND ALL PERTINENT DATA NEEDED TO FULLY DESCRIBE THE ELEMENT OR ITEM OF THE WORK.

B) SHOP AND SUPPLEMENTAL DRAWINGS SHALL INDICATE ALL ROUGH_IN, BACKING OR BLOCKING, SPACE REQUIREMENTS AND THAT FIELD MEASUREMENTS HAVE BEEN VERIFIED FOR CONFORMITY TO THE CONTRACT DOCUMENTS, CODE REQUIREMENTS, WHERE APPLICABLE, AND NECESSARY COORDINATION WITH ANY OTHER PARTS OF THE WORK.

C) THE CONTRACTOR SHALL SIGN THE DRAWINGS OR PROJECT DATA TRANSMITTAL TO CERTIFY THAT HE OR SHE HAS REVIEWED THE SHOP AND SUPPLEMENTAL DRAWINGS SUBMITTAL, VERIFIED ALL FIELD MEASUREMENTS AND COMPLIED WITH ALL APPLICABLE PROVISIONS OF THE CONTRACT DOCUMENTS.

1.3 DISTRIBUTION

THE CONTRACTOR SHALL PROVIDE TWO COPIES OF PROJECT DATA AND SHOP AND SUPPLEMENTAL DRAWINGS. THE ENGINEER SHALL RETURN ONE MARKED COPY TO THE CONTRACTOR.

1.4 LIMITATION OF SUBMITTALS AND REVIEWS

THE CONTRACTOR SHALL SUBMIT PROJECT DATA AND SAMPLES FOR EQUIPMENT AND MATERIALS WHICH MEET OR EXCEED THE REQUIREMENTS OF THE SPECIFICATIONS. ACCORDINGLY, IT IS CONSIDERED REASONABLE THAT THE CONTRACTOR PROVIDE PROJECT DATA AND SAMPLES WHICH ARE COMPLETE AND ACCEPTABLE, IN THE JUDGMENT OF THE ENGINEER, BY THE SECOND SUBMISSION OF SPECIFIC PROJECT DATA AND SAMPLES. THE OWNER RESERVES THE RIGHT TO AND WILL WITHHOLD SUCH AMOUNT FROM PAYMENTS DUE TO THE CONTRACTOR TO COVER THE COST OF REVIEW BY THE ENGINEER OF THIRD AND SUBSEQUENT SUBMISSIONS OF SPECIFIC PROJECT DATA AND SAMPLES.

THE CONTRACTOR'S PROGRESS SCHEDULE SHALL INCLUDE TIME FOR THE SUBMITTAL OF PROJECT DATA AND SAMPLES AND FOR THE RESUBMITTAL OF PROJECT DATA AND SAMPLES REJECTED BY THE ENGINEER.

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̱'W DEIY1 STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SPECIFICATIONS

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SHEET:
03 of 22

SUBSURFACE CONDITIONS

1.0 SOIL REPORTS

A. ANY DATA ON SOIL AND/OR SUBSURFACE CONDITIONS SHOWN IN THE PLANS OR SPECIFICATIONS IS NOT TO BE TAKEN AS A REPRESENTATION, BUT IS BASED ON LIMITED INFORMATION AND IS AT BEST ONLY AN OPINION; CONSEQUENTLY, SUCH DATA CANNOT BE CONSIDERED PRECISE OR COMPLETE AND THERE IS NO GUARANTEE AS TO ITS COMPLETENESS, ACCURACY, OR PRECISION.

B. A LIMITED SOILS INVESTIGATION WAS PERFORMED FOR THIS PROJECT TO DETERMINE GENERAL CHARACTERISTICS OF THE EXISTING SUBSURFACE WHILE PERFORMING A WETLANDS DETERMINATION FOR THE SITE. DUE TO LIMITED PROJECT BUDGET, THE SCOPE WAS LIMITED AND MAY NOT HAVE ADEQUATELY ADDRESSED THE SUBSURFACE CONDITIONS IN ALL AREAS.

C. ADDITIONAL INVESTIGATION:

1. CONTRACTOR SHOULD VISIT THE SITE AND ACQUAINT HIMSELF WITH SITE CONDITIONS BEFORE SUBMITTING A BID, AND THE SUBMISSION OF A BID WILL BE PRIMA FACIE EVIDENCE THAT HE HAS DONE SO.

2. PRIOR TO BIDDING, CONTRACTOR MAY MAKE HIS OWN SUBSURFACE INVESTIGATIONS TO SATISFY HIMSELF WITH SITE AND SUBSURFACE CONDITIONS.

EARTHWORK

1.0 EXCAVATION

ALL EXCAVATION IS UNCLASSIFIED. THE TERMS EARTHWORK OR EXCAVATION SHALL INCLUDE ALL MATERIALS EXCAVATED OR REMOVED REGARDLESS OF MATERIAL CHARACTERISTICS. THE CONTRACTOR SHALL MAKE HIS OWN ESTIMATE OF THE KIND AND EXTENT OF MATERIAL, WHICH WILL BE ENCOUNTERED IN THE EXCAVATION.

1.1 ROCK PRODUCTS

A SHOT ROCK EMBANKMENT

SHOT ROCK EMBANKMENT SHALL BE NATURALLY APPEARING BLASTED ROCK FROM A QUARRY. IT SHALL BE FREE OF MUCK, PEAT, FROZEN MATERIAL, ROOTS, SOD, OR OTHER DELETERIOUS MATTER. IT SHALL GENERALLY BE 6" MINUS IN SIZE.

B DRAIN ROCK

GRAVEL CONSISTING OF CRUSHED OR NATURALLY OCCURRING GRANULAR MATERIAL CONTAINING NOT MORE THAN 1% CLAY LUMPS OR OTHER READILY DECOMPOSED MATERIAL (AASHTO T 112). MEET THE GRADING REQUIREMENTS OF THE FOLLOWING GRADATION:

U.S. STANDARD SIEVE SIZE	PERCENT PASSING BY WEIGHT
3"	100
1"	0–10
No. 200	0–5

1.2 PLACEMENT AND COMPACTION REQUIREMENTS

A. SHOT ROCK EMBANKMENT

1) EMBANKMENT SHALL BE PLACED IN LIFTS WHOSE LOOSE THICKNESS DOES NOT EXCEED 2 FEET. MATERIAL SHALL BE DUMPED ON THE EXISTING FILL AND DOZED INTO PLACE. IN ADDITION TO MECHANICAL COMPACTION, IT SHALL BE COMPACTED BY ROUTING THE HAULING AND PLACING EQUIPMENT OVER THE ENTIRE AREA PRIOR TO PLACING THE NEXT LIFT.

STORM DRAINAGE

1.1 PRODUCTS

A. BEDDING MATERIALS

PIPE BEDDING MATERIAL SHALL CONSIST OF SCREENED SHOT ROCK MATERIAL FROM A QUARRY. IT SHALL BE FREE OF MUCK, FROZEN MATERIALS, ROOTS, SOD, OR OTHER DELETERIOUS MATTER. IT SHALL BE GENERAL WELL GRADED 2" MINUS MATERIAL.

B. SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE

1) TWELVE THROUGH THIRTY–SIX INCH DIAMETER SHALL CONFORM TO AASHTO M294 TYPE S.

2) COUPLING BANDS SHALL COVER AT LEAST ONE FULL CORRUGATION OF EACH SECTION OF PIPE.

3) PIPE FITTINGS SHALL CONFORM TO AASHTO M252 OR AASHTO M294.

1.2 COMPACTION

A. BEDDING FOR CORRUGATED STEEL/PLASTIC PIPE

1) MATERIAL FOR SIDEFILL AROUND AND TO THE CROWN ELEVATION OF CORRUGATED PLASTIC PIPE SHALL BE SELECTED AND SHALL NOT CONTAIN STONES LARGER THAN 3 INCHES IN GREATEST DIMENSION, FROZEN LUMPS, ROOTS, OR MOISTURE IN EXCESS OF THAT PERMITTING THOROUGH COMPACTION.

2) MATERIAL PLACED WITHIN THE PIPE COMPACTION ZONE SHALL BE BROUGHT UP SIMULTANEOUSLY ON EACH SIDE OF THE PIPE TO THE TOP OF THE PIPE AND COMPACTED UNTIL THE SUBGRADE CAN PASS A STANDARD HEAL TOE TEST.

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SPECIFICATIONS

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SHEET:
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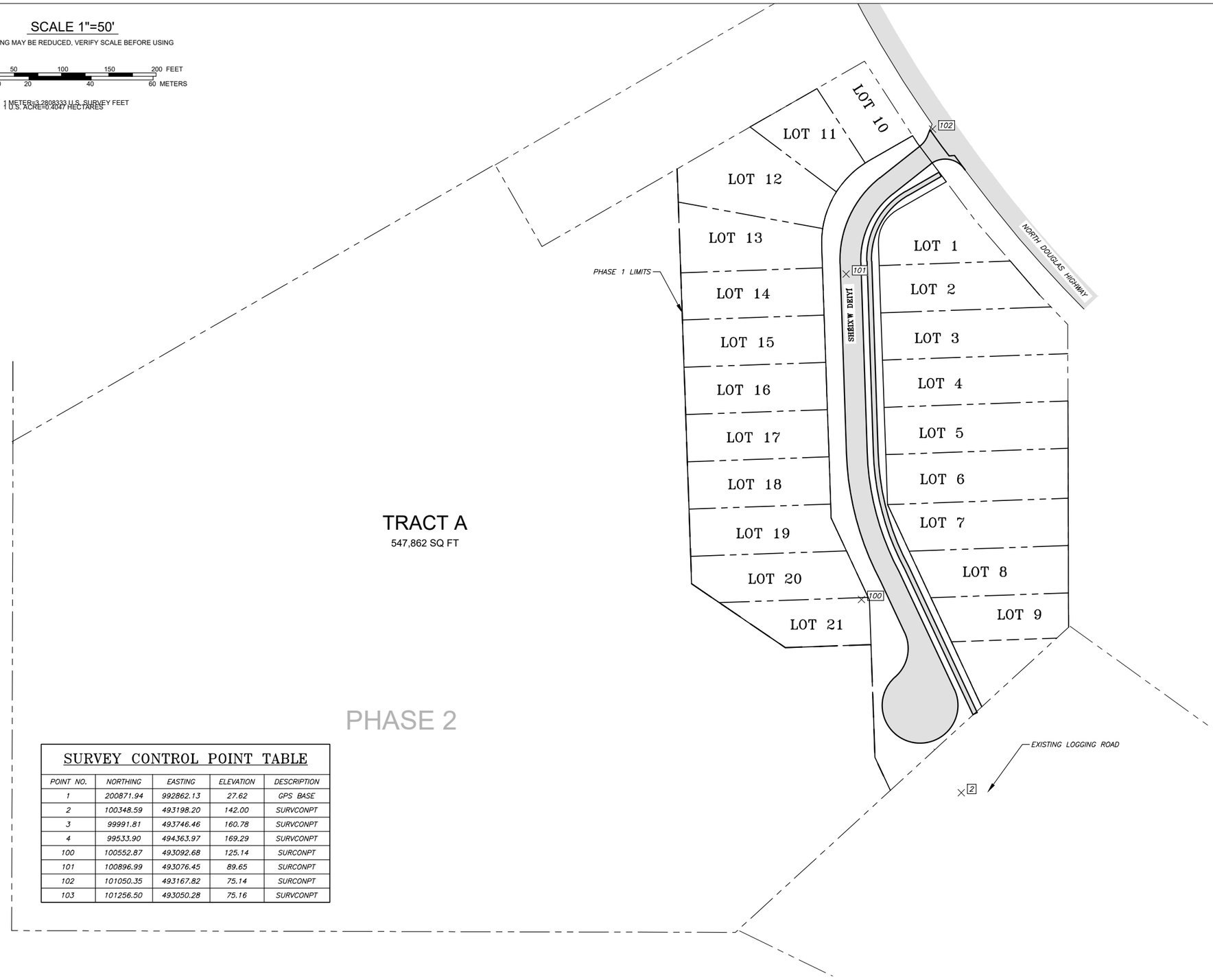
SCALE 1"=50'

THIS DRAWING MAY BE REDUCED, VERIFY SCALE BEFORE USING

0 25 50 100 150 200 FEET
0 10 20 40 60 METERS

1 METER=3.2808333 U.S. SURVEY FEET
1 U.S. ACRE=0.4047 HECTARES

MAGNETIC 18° 20'



SURVEY CONTROL POINT TABLE

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	200871.94	992862.13	27.62	GPS BASE
2	100348.59	493198.20	142.00	SURVCONPT
3	99991.81	493746.46	160.78	SURVCONPT
4	99533.90	494363.97	169.29	SURVCONPT
100	100552.87	493092.68	125.14	SURCONPT
101	100896.99	493076.45	89.65	SURCONPT
102	101050.35	493167.82	75.14	SURCONPT
103	101256.50	493050.28	75.16	SURVCONPT

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
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R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SHEET LAYOUT AND SURVEY CONTROL

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SHEET:
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SHÉIX̲'W DEIYÍ LINE TABLE

LINE #	LENGTH	BEARING	START COORD.	END COORD.
L37	80.03	S60° 08' 49"W	N: 101039.66 E: 493200.63	N: 100999.82 E: 493131.22
L38	201.72	S1° 53' 26"E	N: 100909.79 E: 493081.05	N: 100708.18 E: 493087.71
L39	173.14	S25° 08' 52"E	N: 100577.12 E: 493122.72	N: 100420.39 E: 493196.29

SHÉIX̲'W DEIYÍ CURVE TABLE

CURVE #	DELTA	RADIUS	CURVE LENGTH	CHORD BEARING	PC	PT
C9	62°02'	100.00'	108.28'	S29° 07' 41.44"W	10+80.03	11+88.31
C10	26°08'	300.00'	136.84'	S14° 57' 26.14"E	13+90.03	15+26.86

STORM STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS
CONNECT TO EX CULVERT2	STA: 10+28.58 OFF: –23.57 RIM ELEV. = 74.63 SUMP ELEV. = 71.92 SD LN 9 (NW Concrete Pipe) I.E. IN = 71.92' SD EX 2 (SE EX. 18" CMP) I.E. OUT = 71.92'
CONNECT TO EX. CULVERT1	STA: 10+29.29 OFF: –15.71 RIM ELEV. = 74.80 SUMP ELEV. = 71.55 SD LN 8 (SE Concrete Pipe) I.E. IN = 71.55' SD EX 1 (NW EX 18" CMP) I.E. OUT = 71.55'
SD CB 1.1	STA: 10+98.99 OFF: –15.37 RIM ELEV. = 77.25 SUMP ELEV. = 73.31 SD LN 2 (SW Concrete Pipe) I.E. IN = 73.85' SD LN 1 (N Concrete Pipe) I.E. OUT = 73.52'
SD CB 1.2	STA: 11+79.84 OFF: –15.69 RIM ELEV. = 83.36 SUMP ELEV. = 79.96 SD LN 3 (S 18" CPP) I.E. IN = 80.43' SD LN 2 (NE Concrete Pipe) I.E. OUT = 80.17'
SD CB 1.3	STA: 13+89.71 OFF: –15.28 RIM ELEV. = 109.39 SUMP ELEV. = 104.95 SD LN 4 (S 18" CPP) I.E. IN = 105.26' SD LN 3 (N 18" CPP) I.E. OUT = 105.15'
SD CB 1.4	STA: 15+00.94 OFF: –15.66 RIM ELEV. = 121.57 SUMP ELEV. = 117.55 SD LN 5 (SE 18" CPP) I.E. IN = 118.05' SD LN 4 (N 18" CPP) I.E. OUT = 117.76'
SD CB 1.5	STA: 16+20.14 OFF: –15.62 RIM ELEV. = 132.09 SUMP ELEV. = 128.61 SD LN 6 (SW Concrete Pipe) I.E. IN = 129.13' SD LN 7 (SE Concrete Pipe) I.E. IN = 129.13' SD LN 5 (NW 18" CPP) I.E. OUT = 128.94'
SD CB 1.6	STA: 16+23.12 OFF: 63.39 RIM ELEV. = 135.58 SUMP ELEV. = 131.33 SD LN 6 (NE Concrete Pipe) I.E. OUT = 131.67'

STORM STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS
SD CB 1.7	STA: 16+86.71 OFF: –14.97 RIM ELEV. = 133.19 SUMP ELEV. = 130.61 SD LN 7 (NW Concrete Pipe) I.E. OUT = 130.61'
SD CB 1.8	STA: 10+28.96 OFF: –19.31 RIM ELEV. = 75.06 SUMP ELEV. = 71.68 SD LN 8 (NW Concrete Pipe) I.E. OUT = 71.68' SD LN 9 (SE Concrete Pipe) I.E. OUT = 72.04'

STORM PIPE TABLE

PIPE ID	DIAMETER/TYPE	LENGTH	SLOPE
SD EX 1	18" CPP	50.4'	3.5%
SD EX 2	18" CPP	23.3'	2.8%
SD EX 3	18" CPP	44.6'	0.4%
SD EX 4	24" CPP	61.5'	7.2%
SD EX 5	24" CPP	61.9'	5.4%
SD LN 1	18" CPP	69.1'	3.3%
SD LN 2	18" CPP	64.5'	9.8%
SD LN 3	18" CPP	207.2'	11.9%
SD LN 4	18" CPP	102.5'	12.2%
SD LN 5	18" CPP	118.6'	9.2%
SD LN 6	18" CPP	79.1'	3.2%
SD LN 7	18" CPP	65.2'	2.3%
SD LN 8	18" CPP	3.6'	3.5%
SD LN 9	18" CPP	4.3'	2.8%

REVISIONS:

SEET KANAX DUTEEN
SUBDIVISION
SHÉIX̲'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7160 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7167
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ALIGNMENT AND GRADING TABLES

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SHEET:
07 of 22

RED ALDER ROAD LINE TABLE

LINE #	LENGTH	BEARING	START COORD.	END COORD.
L37	80.03	S60° 08' 49"W	N: 101039.66 E: 493200.63	N: 100999.82 E: 493131.22
L38	201.72	S1° 53' 26"E	N: 100909.79 E: 493081.05	N: 100708.18 E: 493087.71
L39	191.94	S25° 08' 52"E	N: 100577.12 E: 493122.72	N: 100403.38 E: 493204.28

RED ALDER ROAD CURVE TABLE

CURVE #	DELTA	RADIUS	CURVE LENGTH	CHORD BEARING	PC	PT
C9	62°02'	100.00'	108.28'	S29° 07' 41.44"W	10+80.03	11+88.31
C10	26°08'	300.00'	136.84'	S14° 57' 26.14"E	13+90.03	15+26.86

WATER & SEWER SERVICE POINT TABLE

POINT NO.	NORTHING	EASTING	DESCRIPTION
104	100983.56	493167.34	LOT 1 WATER SERVICE
105	100980.35	493161.85	LOT 1 SEWER SERVICE
106	100901.87	493114.01	LOT 2 SEWER SERVICE
107	100894.16	493118.74	LOT 2 WATER SERVICE
108	100852.59	493116.01	LOT 3 SEWER SERVICE
109	100843.21	493116.98	LOT 3 WATER SERVICE
110	100803.27	493120.11	LOT 4 SEWER SERVICE
111	100797.10	493120.51	LOT 4 WATER SERVICE
112	100749.50	493122.46	LOT 5 WATER SERVICE
113	100753.29	493121.73	LOT 5 SEWER SERVICE
114	100698.82	493123.40	LOT 6 WATER SERVICE
115	100704.30	493123.32	LOT 6 SEWER SERVICE
116	100646.55	493130.68	LOT 7 WATER SERVICE
117	100651.46	493129.63	LOT 7 SEWER SERVICE
118	100597.85	493148.48	LOT 8 WATER SERVICE
119	100603.53	493148.16	LOT 8 SEWER SERVICE
120	100547.07	493175.41	LOT 9 WATER SERVICE
121	100552.68	493172.20	LOT 9 SEWER SERVICE
122	101029.74	493114.75	LOT 10 WATER SERVICE
123	101027.47	493112.66	LOT 10 SEWER SERVICE
124	101004.23	493083.18	LOT 11 WATER SERVICE
125	101001.95	493081.09	LOT 11 SEWER SERVICE
126	100973.54	493061.06	LOT 12 WATER SERVICE
127	100967.65	493060.19	LOT 12 SEWER SERVICE
128	100920.20	493046.83	LOT 13 WATER SERVICE
129	100915.51	493046.22	LOT 13 SEWER SERVICE
130	100877.13	493046.94	LOT 14 WATER SERVICE
131	100872.14	493047.10	LOT 14 SEWER SERVICE
132	100815.27	493049.13	LOT 15 WATER SERVICE
133	100810.28	493049.25	LOT 15 SEWER SERVICE
134	100783.26	493050.43	LOT 16 WATER SERVICE
135	100778.26	493050.59	LOT 16 SEWER SERVICE
136	100729.22	493052.27	LOT 17 WATER SERVICE
137	100724.22	493052.44	LOT 17 SEWER SERVICE
138	100678.54	493054.03	LOT 18 SEWER SERVICE
140	100683.53	493053.87	LOT 18 WATER SERVICE
141	100624.75	493068.44	LOT 19 WATER SERVICE
142	100620.69	493071.94	LOT 19 SEWER SERVICE
143	100584.40	493085.73	LOT 20 WATER SERVICE
144	100580.53	493087.52	LOT 20 SEWER SERVICE
145	100531.70	493107.04	LOT 21 WATER SERVICE
146	100527.83	493108.83	LOT 21 SEWER SERVICE

SANITARY SEWER STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS
CONNECT TO EX. SS LINE	CONNECT TO EXISTING SEWERLINE STA: 10+44.63 / OFF: 19.34' RIM ELEV. = 69.04' SUMP ELEV. = 64.30' SS LN 1.01 (SW 8" C900) I.E. IN = 64.30' EX. SS LN (NE PVC Pipe) I.E. OUT = 64.30'
SEWER 1	INSTALL 8" CAP STA: 16+94.43 / OFF: -20.03' RIM ELEV. = 0.00' SUMP ELEV. = -3.00'
SEWER 2	INSTALL 8" CAP STA: 16+39.31 / OFF: 70.90' RIM ELEV. = 138.00' SUMP ELEV. = 128.20' SS LN 1.06 (NE 8" C900) I.E. OUT = 128.23'
SS MH 1	CONST. 4'ø MANHOLE STA: 11+30.52 / OFF: 13.07' RIM ELEV. = 79.92' SUMP ELEV. = 69.97' SS LN 1.02 (S 8" C900) I.E. IN = 70.21' SS LN 1.01 (NE 8" C900) I.E. OUT = 69.97'
SS MH 2	CONST. 4'ø MANHOLE STA: 11+82.61 / OFF: 13.42' RIM ELEV. = 84.73' SUMP ELEV. = 76.51' SS LN 1.03 (S 8" C900) I.E. IN = 76.80' SS LN 1.02 (N 8" C900) I.E. OUT = 76.67'
SS MH 3	CONST. 4'ø MANHOLE STA: 14+24.77 / OFF: 13.48' RIM ELEV. = 114.09' SUMP ELEV. = 106.27' SS LN 1.04 (S 8" C900) I.E. IN = 106.43' SS LN 1.03 (N 8" C900) I.E. OUT = 106.29'
SS MH 4	CONST. 4'ø MANHOLE STA: 15+15.04 / OFF: 13.49' RIM ELEV. = 124.46' SUMP ELEV. = 116.46' SS LN 1.05 (SE 8" C900) I.E. IN = 116.66' SS LN 1.04 (N 8" C900) I.E. OUT = 116.46'
SS MH 5	CONST. 4'ø MANHOLE STA: 16+32.23 / OFF: 15.65' RIM ELEV. = 133.49' SUMP ELEV. = 125.86' SS LN 2.1 (E 8" C900) I.E. IN = 125.96' SS LN 1.06 (SW 8" C900) I.E. IN = 126.00' SS LN 1.05 (NW 8" C900) I.E. OUT = 125.86'
SS MH 8	CONST. 4'ø MANHOLE STA: 16+64.51 / OFF: -20.16' RIM ELEV. = 134.36' SUMP ELEV. = 127.70' SS LN 2.2 (SE 8" C900) I.E. IN = 127.87' SS LN 2.1 (W 8" C900) I.E. OUT = 127.73'
SS MH EX 1	CONST. 4'ø MANHOLE STA: 10+21.52 / OFF: 25.81' RIM ELEV. = 75.20' SUMP ELEV. = 62.76' EX. SS LN (SW PVC Pipe) I.E. IN = 62.78'

SANITARY SEWER PIPE TABLE

PIPE ID	DIAMETER/TYPE	LENGTH	SLOPE	CONNECTING STRUCTURE
EX. SS LN	8" C900	24.0'	6.3%	CONNECT TO EX. SS LINE / SS MH EX 1
SS LN 1.01	8" C900	92.4'	6.1%	CONNECT TO EX. SS LINE / SS MH 1
SS LN 1.02	8" C900	58.3'	11.1%	SS MH 1 / SS MH 2
SS LN 1.03	8" C900	244.4'	12.1%	SS MH 2 / SS MH 3
SS LN 1.04	8" C900	94.0'	10.7%	SS MH 3 / SS MH 4
SS LN 1.05	8" C900	117.1'	7.9%	SS MH 4 / SS MH 5
SS LN 1.06	8" C900	55.7'	4.0%	SS MH 5 / SEWER 2
SS LN 2.1	8" C900	48.2'	3.7%	SS MH 5 / SS MH 8
SS LN 2.2	8" C900	29.9'	2.8%	SS MH 8 /

WATER STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS
Structure - (283)	Null Structure STA: ??? / OFF: ???
WATER 1	INSTALL FIRE HYDRANT PER DETAILS STA: 11+93.18 / OFF: -25.77'
WATER 2	INSTALL FIRE HYDRANT PER DETAILS STA: 16+11.07 / OFF: -24.83'
WATER 3	Install 8"x8" M.J. TEE STA: 16+59.06 / OFF: -0.25'
WATER 4	INSTALL 2" BLOW-OFF VALVE STA: 16+95.40 / OFF: -0.16'
WATER 5	INSTALL 8" CAP STA: 16+57.66 / OFF: 74.82'
WATER 6	INSTALL 16"x8" M.J. TEE STA: 10+30.09 / OFF: -6.48'

WATER LINE PIPE TABLE

PIPE ID	DIAMETER/TYPE	LENGTH	START STA/OFF	END STA/OFF
W LN 1.01	8" HDPE	33.5'	STA: 10+30.09 / OFF: -6.48'	STA: 10+63.55 / OFF: -5.42'
W LN 1.02	8" HDPE	33.7'	STA: 10+63.55 / OFF: -5.42'	STA: 10+97.95 / OFF: -3.29'
W LN 1.03	8" HDPE	31.2'	STA: 10+97.95 / OFF: -3.29'	STA: 11+30.66 / OFF: -6.00'
W LN 1.04	8" HDPE	45.7'	STA: 11+30.66 / OFF: -6.00'	STA: 11+77.99 / OFF: -0.57'
W LN 1.05	8" HDPE	214.1'	STA: 11+77.99 / OFF: -0.57'	STA: 13+92.19 / OFF: -0.21'
W LN 1.06	8" HDPE	106.2'	STA: 13+92.19 / OFF: -0.21'	STA: 14+99.15 / OFF: -0.65'
W LN 1.07	8" HDPE	134.5'	STA: 14+99.15 / OFF: -0.65'	STA: 16+33.69 / OFF: -0.30'
W LN 1.08	8" HDPE	25.4'	STA: 16+33.69 / OFF: -0.30'	STA: 16+59.06 / OFF: -0.25'
W LN 1.09	8" HDPE	51.0'	STA: 16+93.23 / OFF: 0.00'	STA: 16+93.65 / OFF: 50.98'
W LN 2.1	8" HDPE	18.2'	STA: 16+59.06 / OFF: -0.25'	STA: 16+77.30 / OFF: -0.20'
W LN 2.2	8" HDPE	18.2'	STA: 16+77.30 / OFF: -0.20'	STA: 16+95.54 / OFF: -0.16'

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ALIGNMENT AND GRADING TABLES

A7

SHEET:
02 of 14

NOTES:

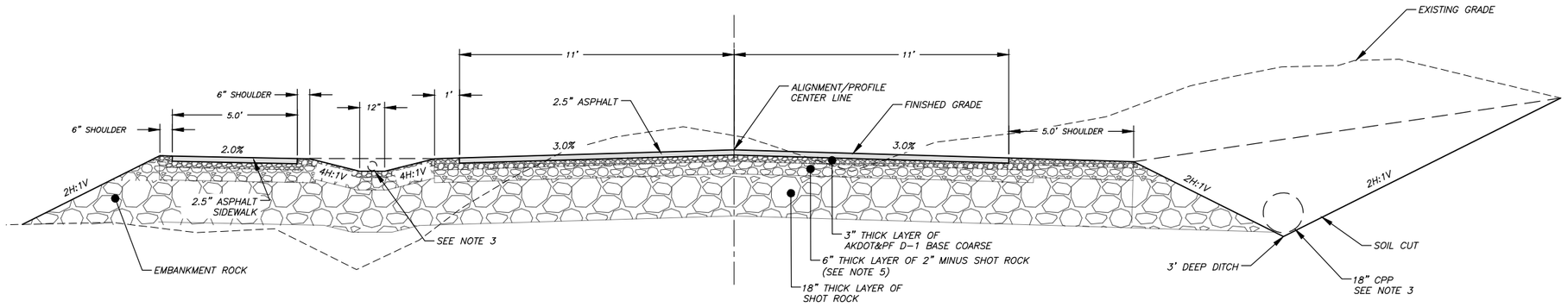
1) VERTICAL EXAGGERATION = 1.0

2) ALL MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY

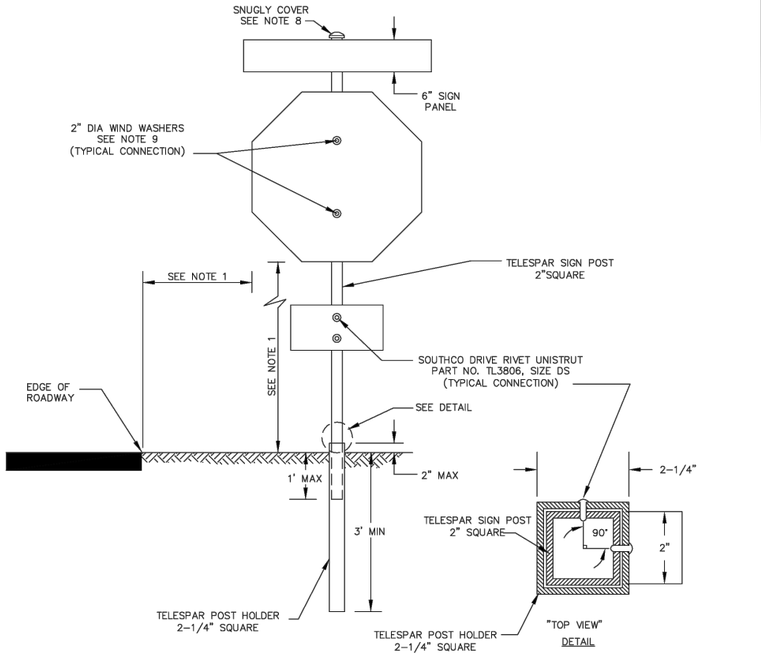
3) FOR DRIVEWAYS ON UPHILL SIDE, INSTALL 4H:1V SWALE WITH CROSS CULVERT AS INDICATED. FOR DRIVEWAYS ON DOWNHILL SIDE, INSTALL SLOPE AWAY FROM S/W AND ROAD AT H4:1V MIN.

4) EXCAVATION LIMITS SHOWN ARE ONLY AN APPROXIMATION OF THE BOTTOM OF ORGANICS IN A FILL SECTION, OR THE BOTTOM OF STRUCTURAL ROADWAY SECTION IN A CUT SECTION. ADDITIONAL EXCAVATION BELOW THE NEAT LINE SUB CUT MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, IF ORGANIC OR OTHER UNSUITABLE MATERIALS ARE ENCOUNTERED AT OR NEAR THE PLANNED SUB CUT ELEVATION.

5) THE BASE COURSE LAYER WITHIN THE ROADWAY SHALL BE 4" TO 5" OF 2-INCH MINUS SHOT ROCK WITH 1" TO 2" TOP LAYER OF BASE COURSE, GRADING D-1 FOR A TOTAL THICKNESS OF 6". THE 2-INCH MINUS SHOT ROCK SHALL BE WELL COMPACTED PRIOR TO PLACEMENT OF GRADING D-1.

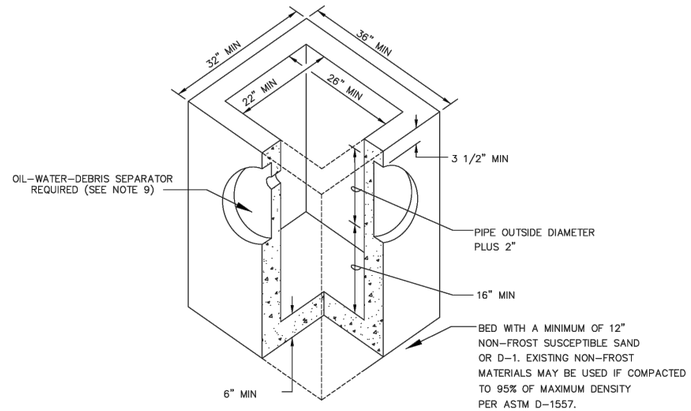


1 / B1 TYPICAL ROAD SECTION
NOT TO SCALE



NOTES:
1. SIGN PANEL MATERIAL AND THICKNESS SHALL CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. SIGN SIZE AND PLACEMENT SHALL CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE ALASKA SUPPLEMENT (SEE LATEST EDITION.)
2. SIGN POST SHALL BE INSERTED INTO HOLDER A MINIMUM OF 0'-6" AND A MAXIMUM OF 1'-0".
3. STREET NAMES SHALL BE ON 6" EXTRUDED SIGN PANELS.
4. STREET SIGN PANELS SHALL BE BETWEEN 12 AND 36 INCHES IN LENGTH AND IN 6" INCREMENTS.
5. STREET NAME LETTERING SHALL BE 3 INCHES HIGH, SERIES C TYPE.
6. THE BRACKETS FOR THE EXTRUDED STREET SIGN PANELS SHALL HAVE A MINIMUM SPAN OF 5 INCHES.
7. A STREET NAME ASSEMBLY SHALL BE INSTALLED ON EACH STOP SIGN AND WILL SHOW THE STREET NAMES OF BOTH INTERSECTING STREETS.
8. SNUGLY COVER TOP OF POST WITH EXTRUDED TELESPAR POST CAP.
9. WIND WASHERS ARE REQUIRED ON FRONT SIDE OF SIGNS. THEY SHALL BE 2" DIA STAINLESS FENDER WASHERS OR APPROVED EQUAL AND MATCH THE COLOR OF THE SIGN.

2 / B1 SIGN ASSEMBLY SINGLE-POST DETAIL
NOT TO SCALE



CATCH BASIN

NOTES
1. FOR USE WITH TWO INLET/OUTLET PIPES OF DIAMETER 12" OR SMALLER. FOR LARGER AND/OR MORE INLET/OUTLET PIPES OR IF CATCH BASIN IS DEEPER THAN 4' FROM FINISH GRADE TO SUMP, INSTALL A TYPE I OR TYPE II STORM DRAIN MANHOLE (SEE STANDARD 303).
2. ENTIRE KNOCKOUT IS TO BE REMOVED AND SEALED SHUT AROUND PIPE. ALL PIPES ARE TO EXTEND MIN 1" AND MAX 3" INTO CATCH BASIN. GROUT INTERIOR AND EXTERIOR BETWEEN FRAME, SECTIONS, AND CATCH BASIN.
3. FRAME AND GRATE SHALL BE DUCTILE IRON. FRAME MAY BE CAST INTO THE TOP UNIT OR PLACED OVER THE OPENING AS APPROVED BY THE ENGINEER. FRAME AND GRATE SHALL BE OF A TYPE THAT WILL NOT CREATE A HAZARD FOR BICYCLE TRAFFIC.
4. CATCH BASIN SHALL MEET HIGHWAY STANDARD-20 LOAD REQUIREMENTS.
5. MINIMUM STEEL SHALL BE SPECIFIED BY ASTM C-478-69.
6. MINIMUM SUMP DEPTH SHALL BE 16".
7. ADJUSTING RING SHALL BE THE SAME SIZE AS THE CATCH BASIN.
8. THE AREA BETWEEN THE TOP OF THE CATCH BASIN AND THE FRAME SHALL BE FORMED AND FILLED WITH CONCRETE MEETING THE REQUIREMENTS OF CBJ SPECIFICATION 03302 – CONCRETE STRUCTURES. NO BRICKS, WOOD OR OTHER MATERIALS PERMITTED FOR ADJUSTING GRADE.
9. ALL CATCH BASINS THAT EMPTY INTO AN OPEN DRAINAGE SHALL BE FITTED WITH AN OIL-WATER-DEBRIS SEPARATOR DEVICE AS DIRECTED BY THE ENGINEER.

3 / B1 TYPE III CATCH BASIN DETAIL
NOT TO SCALE

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̱'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
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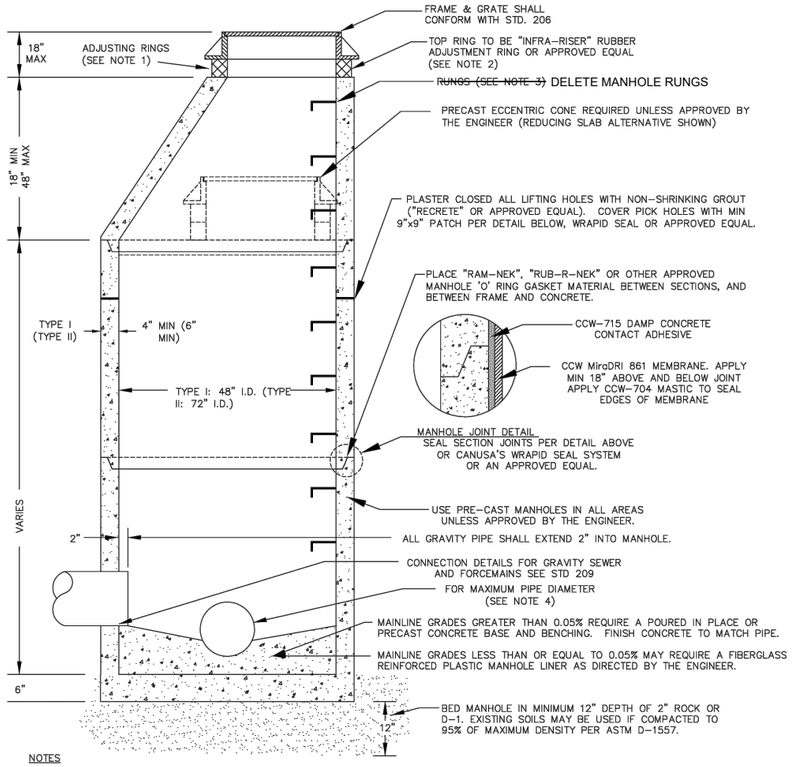
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
2/11/2026
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TYPICAL SECTIONS

B1

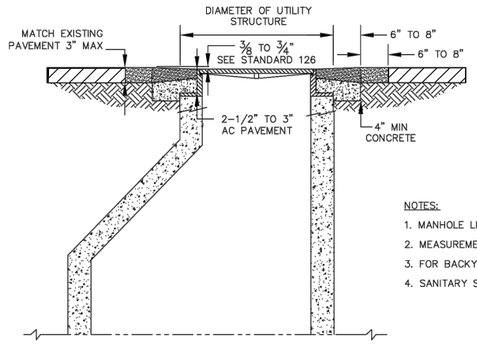
SHEET:
07



NOTES

1. USE NO MORE THAN ONE 4" ADJUSTING RING FOR NEW CONSTRUCTION OR UNPAVED ROADS, USE NO MORE THAN THREE 4" RINGS FOR RECONSTRUCTION OF PAVED OR CHIPSEAL ROADS. TOP ADJUSTING RINGS SHALL BE AN "INFRA-RISER" RUBBER ADJUSTING RING OR APPROVED EQUAL. MATCH FINAL GRADE PER TABLE CBJ STANDARD 205.
2. USE "PL POLYURETHANE SELF-LEVELING CONCRETE CRACK SEALANT" OR APPROVED EQUAL FOR "INFRA-RISER" INSTALLATION.
3. ~~RUNGS TO BE PLACED 12" O.C. ON UNOBSTRUCTED SIDE OF MANHOLE. LAST RUNG SHALL BE 18" MAX FROM BOTTOM OF MANHOLE, AND TOP RUNG SHALL BE 6" MAXIMUM FROM TOP OF CONE. IF UNOBSTRUCTED SIDE NOT AVAILABLE, LAST RUNG SHALL BE PLACED~~ 6" ~~OVER SMALLEST PIPE. RUNGS SHALL BE LANE POLYETHYLENE 14" LADDER STEPS OR AN APPROVED EQUAL.~~
4. MAXIMUM PIPE DIAMETER SHALL BE 20" FOR A TYPE I MANHOLE. FOR LARGER PIPES, USE A TYPE II MANHOLE. MANHOLES INTERSECTED BY MORE THAN 2 PIPES, 15" DIAMETER OR LARGER, USE A TYPE II MANHOLE. MINIMUM MAINLINE DIAMETER SHALL BE 8".
5. REFER TO A.S.T.M. C-478 FOR DESIGN REQUIREMENTS AND C-478-69 FOR MINIMUM STEEL FOR BARREL AND BASE. BLOCKOUTS SHALL BE FORMED.
6. IF MANHOLE IS WITHIN A ROADWAY, COMPACTION TESTS MUST BE TAKEN ON BACKFILL EVERY 3'. DENSITY SHALL BE 95% OF MAXIMUM PROCTOR DENSITY.
7. MANHOLE FRAMES MAY BE RAISED TO ACCOMMODATE PAVEMENT OVERLAYS PROVIDED THE DISTANCE FROM THE TOP OF THE FRAME TO THE FIRST RUNG IS LESS THAN 36".

1/B2 SANITARY SEWER MANHOLE, TYPE I&II DETAIL
NOT TO SCALE



MANHOLE LID
BELOW GRADE

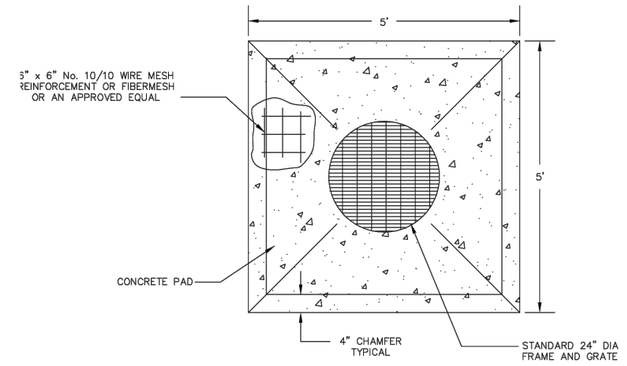
NOTES:

1. MANHOLE LID MUST CONFORM TO THE GRADE AND CROSS SLOPE OF THE STREET. SEE STANDARD 126.
2. MEASUREMENT SHALL BE TAKEN FROM THE TOP OF THE FRAME. SEE STANDARD 206A/206B
3. FOR BACKYARDS, GRAVEL STREETS AND TRAVELED ALLEY AREAS, BACKFILL TO MATCH EXISTING GRADE.
4. SANITARY SEWER MAIN CLEANOUT ELEVATIONS SHALL CONFORM TO THIS STANDARD.

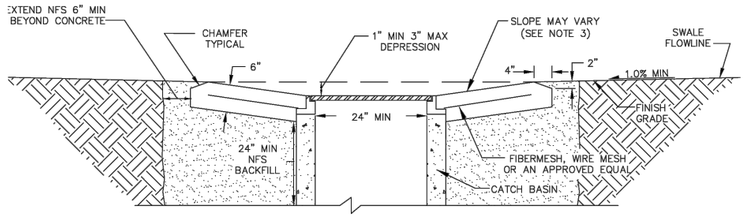
MANHOLE DEPTHS BELOW GRADE

LOCATION OF MANHOLE	DEPTH (D)
PAVED STREETS (SEE NOTE 1)	3/8"-3/4"
BACKYARDS, GRAVEL STREETS, AND TRAVELED ALLEY AREAS	6" MAX

3/B2 MANHOLE HEIGHT DETAIL
NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

1/B2 AREA DRAIN DETAIL
NOT TO SCALE

NOTES:

1. FRAME AND GRATE TODD BE DUCTILE IRON AND A TYPE THAT WILL NOT CREATE A HAZARD FOR A BICYCLE TRAFFIC.
2. COMPACT NON FROST SUSCEPTIBLE (NFS) BACKFILL TO 95% OF MAXIMUM DENSITY.
3. SLOPE MAY VARY TO MATCH SWALE FLOWLINE. FINAL GRADE AS DIRECTED BY THE ENGINEER.

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
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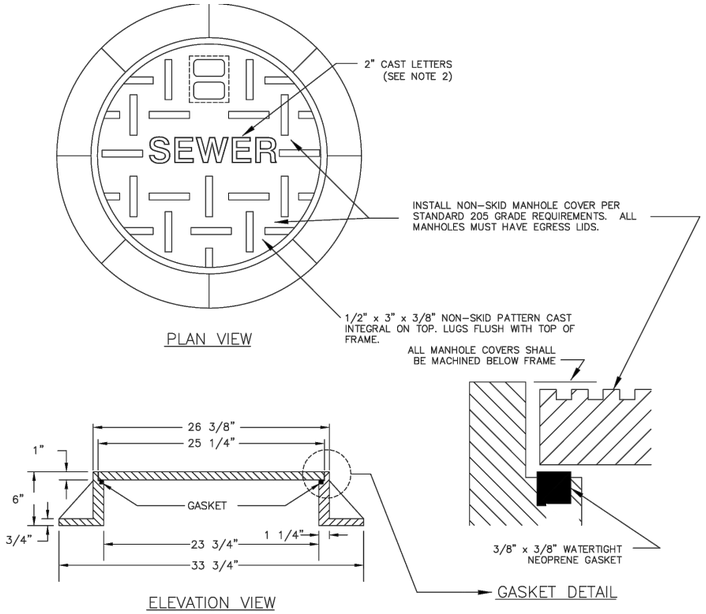
STATE OF ALASKA 49th
TREVOR SANDE
CE 9778
2/11/2026
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TYPICAL SECTIONS

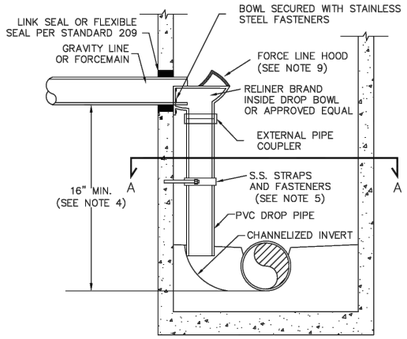
B2

SHEET:
03 of 14



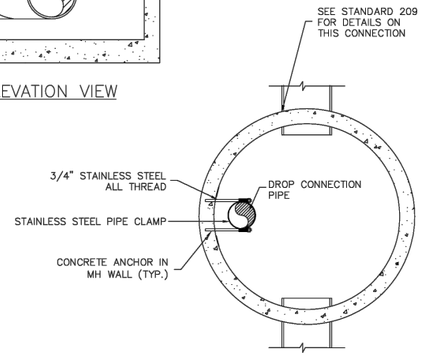
NOTES:
1. FRAME MUST BE MACHINED TO FIT WATERTIGHT NEOPRENE GASKET.
2. MANHOLE COVER SHALL BE WATER TIGHT WITH NO HOLES, SHALL HAVE THE WORD "SEWER", "WATER" OR "STORM DRAIN" CAST IN COVER AND SHALL BE PROVIDED WITH AN INTEGRAL POCKET LIFT HANDLE.
3. FRAME AND MANHOLE COVER DIMENSIONS SHALL BE IN ACCORDANCE WITH OLYMPIC CONSTRUCTION CASTINGS NO. MH30A WITH EGRESS LID, OR AN APPROVED EQUAL.
4. FRAME AND MANHOLE COVER SHALL BE DUCTILE OR CAST IRON AND A TYPE THAT WILL NOT CREATE A HAZARD FOR BICYCLE TRAFFIC.
5. IF MAINLINE IS 20" OR GREATER, PROVIDE MANHOLE WITH 30" OPENING IN COVER & FRAME.
6. ALL MANHOLE COVERS SHALL BE MACHINED BELOW FRAME AS SHOWN IN GASKET DETAIL ABOVE.

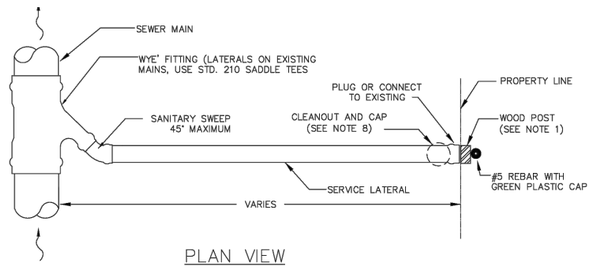
1 / B3 STANDARD MANHOLE COVER AND FRAME DETAIL
NOT TO SCALE

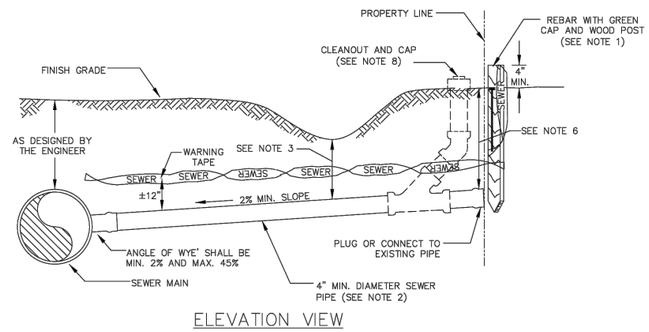


NOTES:
1. ALL OTHER ASPECTS OF MANHOLE CONSTRUCTION SHALL CONFORM WITH STANDARD 203.
2. MANHOLE ELEVATION SHALL CONFORM WITH STANDARD 205.
3. MANHOLE COVER AND FRAME SHALL CONFORM WITH STANDARD 206.
4. DROP CONNECTIONS ARE REQUIRED IF INFLOW INVERT ELEVATION IS MORE THAN 16" ABOVE THE OUTLET INVERT ELEVATION WHERE INVERT ELEVATIONS ARE LESS THAN 16" APART, A CHANNELIZED INVERT SHALL BE FORMED TO A MAXIMUM OF ONE INFLOW PIPE DIAMETER BELOW THE INFLOW PIPE INVERT.
5. STAINLESS STEEL PIPE SUPPORTS SHALL BE INSTALLED 3'-0" ON CENTER ON THE VERTICAL DROP PIPE.
6. A RELINER BRAND STAINLESS ADJUSTABLE CLAMPING BRACKET MAY BE USED IN PLACE OF THE ILLUSTRATED PIPE SUPPORT.
7. DROP PIPING SHALL BE THE DIAMETER SPECIFIED BY THE MANUFACTURER OF THE DROP ASSEMBLY.
8. IF MORE THAN ONE DROP CONNECTION IS MADE, INSTALL A MIN. 6' DIAMETER MANHOLE.
9. FORCE LINE HOOD FOR INSIDE DROP BOWL, RELINER BRAND OR APPROVED EQUAL.

2 / B3 SANITARY SEWER DROP MANHOLE
NOT TO SCALE

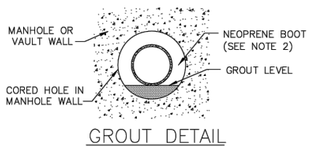




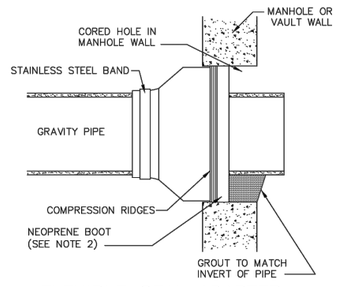


NOTES:
1. MARK SERVICE WITH GREEN PAINTED 2"x4" POST OR STAMP "S" IN TOP OF CURB. POST SHALL EXTEND TO DEPTH OF SERVICE LATERAL. REBAR W/CAP SHALL BE DRIVEN TO GROUND LEVEL. EXTEND WARNING TAPE TO TOP OF POST AND STAPLE IN PLACE.
2. ACCEPTABLE PIPE FOR USE WITHIN R.O.W. INCLUDES C900 PVC, SDR 35 PVC AND DUCTILE IRON.
3. MINIMUM CLEARANCE OF 18" REQUIRED BENEATH DITCH LINE. PIPE WITH LESS THAN 44" OF COVER SHALL BE INSULATED AS APPROVED BY THE ENGINEER.
4. DISTANCE FROM WYE TO MANHOLE AND TWO MEASURED DISTANCES FROM END OF SERVICE PIPE TO PERMANENT OBJECTS SHALL BE NOTED ON AS-BUILT PLANS.
5. SERVICE LATERAL SHALL END AT THE PROPERTY LINE WITH A BELL AT THE END OF PIPE.
6. LATERAL DEPTH AT PROPERTY LINE SHALL ACCOMMODATE EXISTING BUILDING SEWER OR FUTURE BUILDING SITE(S).
7. PIPE CONNECTIONS IN THE RIGHT-OF-WAY THAT DO NOT USE BELL AND SPIGOT SHALL CONFORM TO STANDARD 218.
8. CLEANOUT MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.

3 / B3 SANITARY SEWER SERVICE LATERAL DETAIL
NOT TO SCALE



NOTES
1. ALL MANHOLE CONNECTIONS SHALL BE 100% WATERTIGHT.
2. ALL PIPE SHALL EXTEND 2" INTO MANHOLE.
3. NEOPRENE BOOT ON THE FLEXIBLE SEAL ADAPTER SHALL BE A MINIMUM OF 3/8" THICK PER ASTM C-443, AND SHALL BE HELD IN PLACE WITH AN INTERNAL EXPANDING BAND SUCH AS "KOR-N-SEAL" OR APPROVED EQUAL.
4. PVC SAND COLLAR NOT ALLOWED IN AREAS OF A HIGH WATER TABLE.
5. HDPE FLANGE SHALL BE WELDED TO A SECTION OF PIPE AND INSERTED THROUGH THE FLEXIBLE SEAL FROM THE INSIDE OF THE MANHOLE. THE LENGTH OF HDPE REQUIRED TO BE DETERMINED BY THE INSTALLER.
6. ROMAC HDPE PIPE STIFFINER OR APPROVED EQUAL MAY BE REQUIRED FOR HDPE GRAVITY MAIN INSTALLATIONS. VERIFY WITH THE ENGINEER PRIOR TO INSTALLATION.



4 / B3 MANHOLE CONNECTION DETAIL
NOT TO SCALE

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: TS
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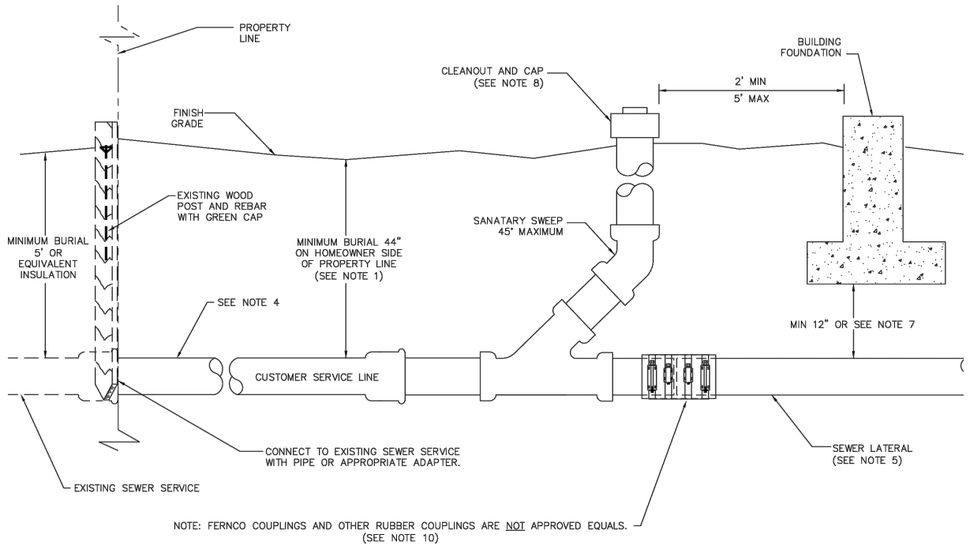
CE 9778
9/1/2026
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TYPICAL SECTIONS

B3

SHEET:
04 of 14

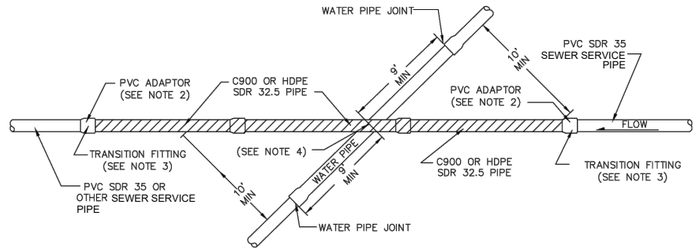


NOTES:

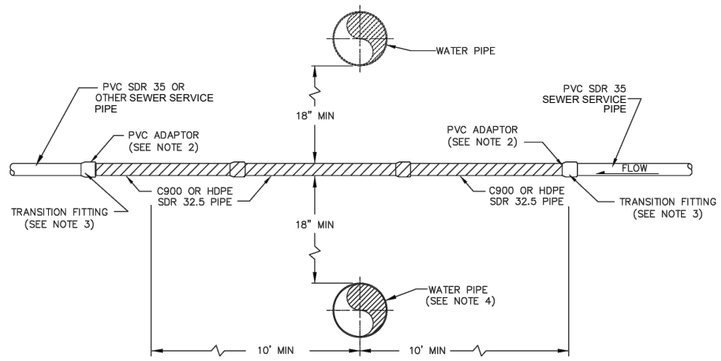
1. WHERE DEPTH OF PIPE MUST BE LESS THAN 44" INSULATION SHALL BE REQUIRED AS APPROVED BY THE ENGINEER.
2. MINIMUM GRADE SHALL BE 2% (1/4" PER FOOT).
3. MINIMUM PIPE DIAMETER SHALL BE 4".
4. ACCEPTABLE MATERIALS FOR PIPE CONSTRUCTION BETWEEN THE PROPERTY LINE AND THE CLEANOUT AT THE FOUNDATION INCLUDE: PVC (SDR 35 OR THICKER), A.B.S. (SCHEDULE 40), DUCTILE IRON (CLASS 2), AND CAST IRON (CLASS 2200).
5. MATERIALS AND INSTALLATION OF THE SEWER LATERAL SHALL CONFORM TO THE UNIFORM PLUMBING CODE. (NOTE: SDR 35 PVC IS NOT AN APPROVED MATERIAL FOR USE UNDER OR INSIDE THE FOUNDATION).
6. LATERAL DEPTH OF SANITARY SEWER SERVICE AT PROPERTY LINE SHALL ACCOMMODATE EXISTING SEWER LATERAL OR FUTURE BUILDING SITE(S). SEE STANDARD 213.
7. IF SEWER LATERAL IS LESS THAN 12" FROM FOUNDATION, SEWER LATERAL SHALL EITHER BE IRON PIPE OR A.B.S. SLEEVED IN IRON. IF SEWER LATERAL PASSES THROUGH THE FOUNDATION WALL, PIPE SHALL BE IRON AND THERE SHALL BE AT LEAST A 1" GAP IN CONCRETE AROUND PIPE. THIS GAP SHALL BE SEALED WITH FOAM.
8. CLEANOUT CONSTRUCTED OF "WYE" FITTING AND CAP OF SAME MATERIAL AS PIPE SHALL BE CONSTRUCTED WITHIN 2' TO 5' OF BUILDING FOUNDATION. AN ADDITIONAL
9. CLEANOUT SHALL BE REQUIRED FOR EVERY 100' OF PIPE AND FOR EACH AGGREGATE BEND OF 135°.
10. IF SEWER LATERAL DIFFERS IN MATERIAL OR SIZE FROM REST OF LINE, A COUPLING, NON-SHEAR, EAITHER MISSION FLEX SEAL, ROMAC INDURTRIES LSS1, OR APPROVED EQUAL IS REQUIRED. FOR LSS1 COUPLING, MINIMUM LENGTH IS 8" FOR A 4" DIA PIPE AND 12" FOR A 6" DIA PIPE.

1 / B4 SANITARY SEWER CONNECTION, CUSTOMER SERVICE LINE DETAIL

NOT TO SCALE



PLAN VIEW



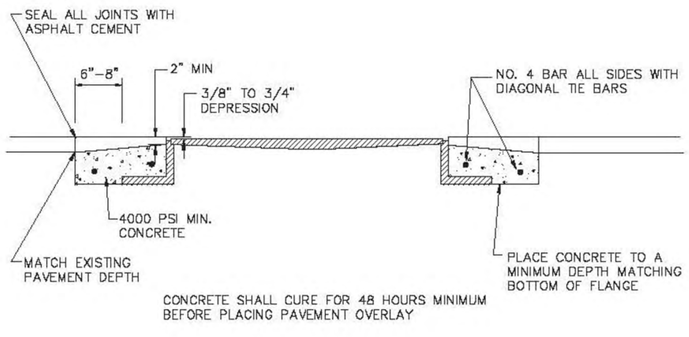
ELEVATION VIEW

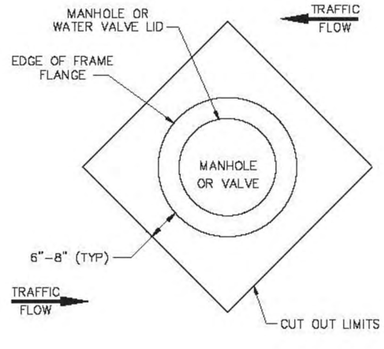
NOTES:

1. HDPE, C900 OR SDR 32.5 SEWER PIPE SHALL BE INSTALLED FOR THE LENGTH SHOWN FOR ALL SANITARY SEWER CROSSINGS AS DIRECTED BY THE ENGINEER.
2. FROM SDR 35 TO C900 AND C900 TO SDR 35 JOINTS SHALL BE TRANSITION BELL PVC ADAPTER, INSTALLED PER THE MANUFACTURERS RECOMMENDATION.
3. FROM SDR 35 TO HDPE AND HDPE TO SDR 35 JOINTS SHALL BE TRANSITION FITTING OR LSS-1, STAINLESS NON-SHEAR COUPLING, INSTALLED PER THE MANUFACTURERS RECOMMENDATION.
4. A FULL LENGTH OF WATER PIPE SHALL BE CENTERED UNDER OR OVER THE SANITARY SEWER PIPE AT ALL CROSSINGS. THE TEN FOOT MEASUREMENT SHALL BE TAKEN PERPENDICULAR TO THE WATER PIPE JOINT.

2 / B4 SANITARY SEWER SERVICE CROSSING DETAIL

NOT TO SCALE





3 / B4 CONCRETE SLAB TRANSITION DETAILS

NOT TO SCALE

REVISIONS:
REV 1: WATER AND SEWER PROFILES

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REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TYPICAL SECTIONS

B4

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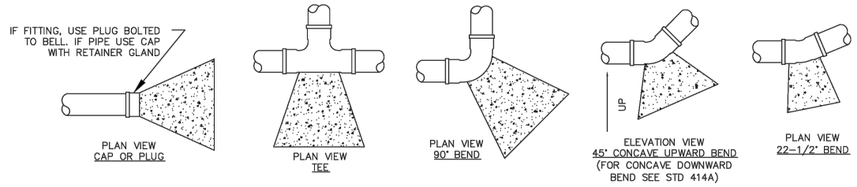


PIPE SIZE	TEES, CAPS, & PLUGS		90° BENDS		ALTERNATIVE RESTRAINED LENGTH IN ALL DIRECTIONS (FEET) – SEE NOTE 5		
	MIN. CONCRETE VOL. (YD;)	MIN. BEARING AREA (FT5)	MIN. CONCRETE VOL. (YD;)	MIN. BEARING AREA (FT5)	TEES	90° BENDS	CAPS & PLUGS
4"	0.1	1.7	0.1	2.4	11	16	33
6"	0.2	3.5	0.4	4.9	15	23	47
8"	0.5	6.0	0.9	8.5	20	30	62
10"	1.0	9.1	1.7	12.8	24	37	74
12"	1.7	12.8	2.9	18.1	29	44	88
14"	2.6	17.2	4.5	24.4	33	50	100
16"	3.9	22.3	6.6	31.5	38	57	113
18"	5.5	28.0	9.2	39.6	42	63	126
20"	7.5	34.4	12.5	48.6	47	70	138
24"	12.7	49.0	21.4	69.3	56	83	162

SMALL ANGLE ADJUSTMENT	
FOR ANGLES LESS THAN 90° MULTIPLY VOLUMES, AREAS, AND LENGTHS FOR 90° ANGLE BY THIS FACTOR	
ANGLE	FACTOR
45°	0.414
22–1/2°	0.199
11–1/4°	0.098

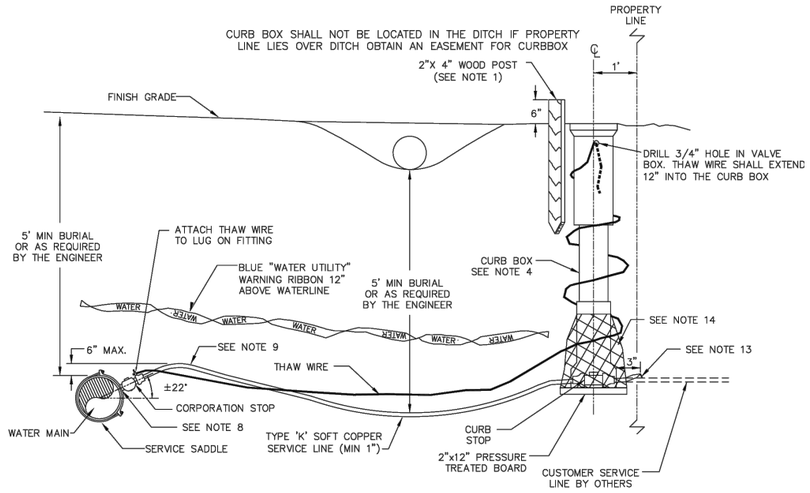
NOTES

1. CENTER OF MASS OF THRUST BLOCK MUST LAY OPPOSITE TO AND ALIGNED AGAINST THE DIRECTION OF THRUST.
2. THRUST BLOCKS SHALL BE POURED SO THAT JOINTS OF FITTINGS, INCLUDING ALL NUTS AND FOLLOWERS REMAIN ACCESSIBLE.
3. CONCRETE THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH. UNSTABLE OR UNSUITABLE MATERIALS SHALL BE REMOVED, REPLACED AND/OR COMPACTED AS DETERMINED BY THE ENGINEER.
4. VOLUME AND BEARING SURFACE OF 2500 P.S.I. CONCRETE THRUST BLOCKS ARE BASED ON 150 P.S.I. WATER PRESSURE AND SOIL BEARING CAPACITY OF 2000 P.S.F. ALL OTHER PRESSURE AND/OR SOIL CONDITIONS ARE SUBJECT TO THE ENGINEER'S REVIEW AND APPROVAL.
5. THRUST BLOCKS MAY BE OMITTED IF ALL JOINTS WITHIN MINIMUM DISTANCE GIVEN BY ABOVE TABLE ARE RESTRAINED AND PIPE IS BEDDED IN SAND. THE DISTANCES APPEARING IN THE TABLE ASSUME THAT THE PIPE IS BURIED AT LEAST 5' DEEP AND THAT SOIL CONDITIONS ARE AS LISTED IN NOTE 4. THE INFORMATION IN THE TABLE IS BASED ON DIPRA'S "THRUST RESTRAINT FOR DUCTILE IRON PIPE" WHICH SHOULD BE CONSULTED IF THESE ASSUMPTIONS ARE NOT MET. SUBJECT TO THE CONDITIONS LISTED IN NOTE 4, A COMBINATION OF A SMALLER THRUST BLOCK AND A REDUCED LENGTH OF RESTRAINED PIPE IS ALLOWED PER THE FOLLOWING FORMULA:

$$\frac{\text{ACTUAL BEARING AREA OF BLOCK}}{\text{BEARING AREA REQUIRED BY TABLE}} + \frac{\text{ACTUAL RESTRAINED LENGTH OF PIPE}}{\text{RESTRAINED LENGTH REQUIRED BY TABLE}} \geq 1.1$$

6. THRUST BLOCKS ARE REQUIRED FOR ALL BENDS, TEES, PLUGS, AND CAPS IN PIPE 4" AND LARGER EXCEPT AS LISTED IN NOTE 5.
7. REGARDLESS OF SIZE OF THRUST BLOCKS ALL JOINTS AT CAPS, PLUGS, BENDS, AND TEES MUST BE RESTRAINED.
8. RESTRAINED LENGTHS USED IN PLACE OF THRUST BLOCKS IN STANDARDS 414A AND 414B MAY NOT OVERLAP.
9. FIELD–LOCK GASKETS, MEGA–LUG AND UNIFLANGE COUPLINGS ARE THE ONLY APPROVED MEANS OF RESTRAINING PIPE.

1 / B5 THRUST BLOCK DETAIL
NOT TO SCALE



NOTES:

1. AT CURB STOP MARK CURB BOX WITH BLUE 2' X 4" WOOD POST OR MARK "W" ON CONCRETE CURB ABOVE THE SERVICE LINE OR CONNECT TO EXISTING LINE.
2. USE MUELLER CORPORATION STOP NO. B25025, FORD CORPORATION STOP NO. FB700–4, OR APPROVED EQUAL. CORPORATION STOP SHALL BE MALE IRON PIPE THREAD INLET BY FLARED COPPER OUTLET.
3. USE MUELLER CURB STOP NO. H15201, OR NO. H15204, FORD CURB STOP B22–444 OR APPROVED EQUAL.
4. CURB BOX SHALL BE KEJRIWAL PACIFIC 145R 49"–62" LID, TOP, MIDDLE AND BOTTOM OR APPROVED EQUIVALENT.
5. ALL COPPER TUBE CONNECTIONS FOR 1" TO 2" PIPE SHALL BE FLARED UNIONS. MUELLER 100 OR FORD GRIP JOINT COMPRESSION FITTINGS MAY BE USED FOR REPAIR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON 3/4" TO 2" COPPER PIPE. WHEN COMPRESSION FITTINGS ARE USED FOR REPAIR, A CONTINUITY TEST SHALL BE REQUIRED.
6. THAW WIRE SHALL BE WOUND AROUND OUTSIDE OF CURB BOX AND EXTEND 12" INTO THE CURBBOX THROUGH A DRILLED 3/4" HOLE.
7. ALL SERVICES MUST HAVE A MINIMUM OF 5' OF COVER BELOW EXISTING CULVERTS AND DITCHES. ADDITIONAL DEPTH MAY BE REQUIRED BY THE ENGINEER.
8. HOLE DRILLED IN THE MAIN FOR THE CORPORATION STOP SHALL BE THE SAME DIAMETER AS THE SERVICE PIPE.
9. PROVIDE AN ADDITIONAL 12" OF SERVICE PIPE BEYOND STRAIGHT LINE LENGTH REQUIRED. LOOP AS SHOWN AT THE CORP STOP. MAINTAIN 5' MINIMUM BURIAL AT HIGH POINT OF SERVICE LINE.
10. MAINTAIN A MINIMUM OF 18" OF SEPARATION BETWEEN VALVE BOXES, AND BETWEEN VALVE BOXES AND OTHER STRUCTURES.
11. CURB BOXES IN PAVED DRIVEWAYS SHALL CONFORM WITH STANDARD 419.
12. ALL NEW SERVICES SHALL BE TESTED FOR ELECTRICAL CONTINUITY AND CURB BOX LOCATION WITH SWING–TIES DELIVERED TO THE ENGINEER.
13. CONNECT A SCRAP PIECE OF COPPER TO THE CURB STOP AND EXTEND A MINIMUM OF 3" BEYOND THE CURB BOX AND CRIMP END.
14. WRAP BOTTOM OF CURB BOX WITH FABRIC OR PLASTIC PRIOR TO BACKFILLING TO KEEP MATERIAL FROM INFILTRATING THE BOX.

2 / B5 WATER SERVICE DETAIL
NOT TO SCALE

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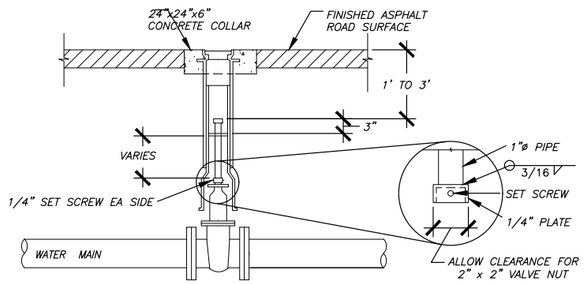


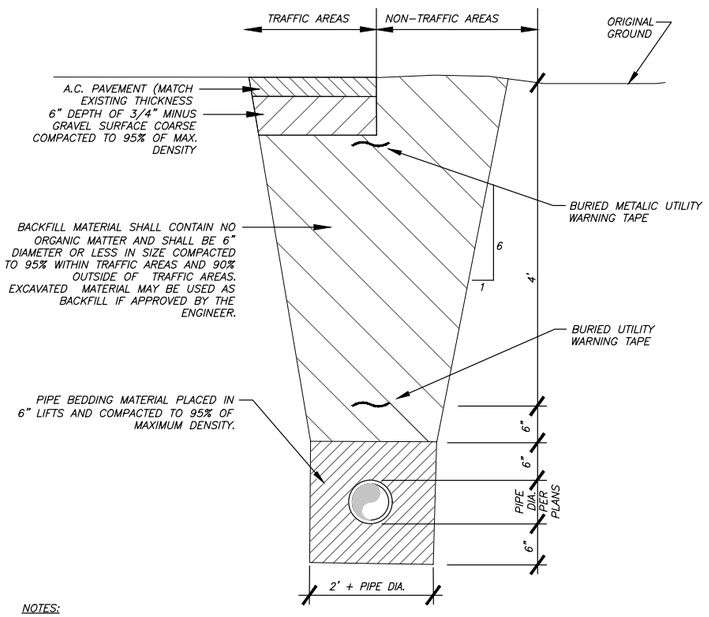
NOTE: EXTENSION IS REQUIRED ON ALL VALVES WHERE OPERATING NUT IS 6 FT OR MORE BELOW FINISHED SURFACE.

NOTES:

1. NEW VALVE BOX TO ALLOW FOR 12" MINIMUM VERTICAL ADJUSTMENT
2. THREADED VALVE BOX SECTIONS ARE NOT ALLOWED. CONTRACTOR SHALL REMOVE THREADED PORTIONS OF THE VALVE BOX WITH CUT-OFF SAW
3. CONTRACTOR SHALL APPLY GREASE TO ALL INTERFACES BETWEEN VALVE BOX SECTIONS.
4. COMPACTION AROUND VALVE BOX INSTALLATION IS CRITICAL. CONTRACTOR SHALL EMPLOY MECHANICAL TAMPING METHODS TO ENSURE THAT MATERIAL AROUND VALVE BOX REACHES 95% OF MAXIMUM COMPACTION.
5. CONTRACTOR SHALL INSTALL A 6" MINIMUM THICKNESS OF D-1 BEDDING AROUND VALVE BOX DURING BACKFILL.
6. EXTENSION IS REQUIRED ON ALL VALVES WHERE OPERATING NUT IS 4.5' OR MORE BELOW FINISHED SURFACE.

3/B5 TYPICAL MAIN LINE VALVE W/OPERATING ROD DETAIL

NOT TO SCALE

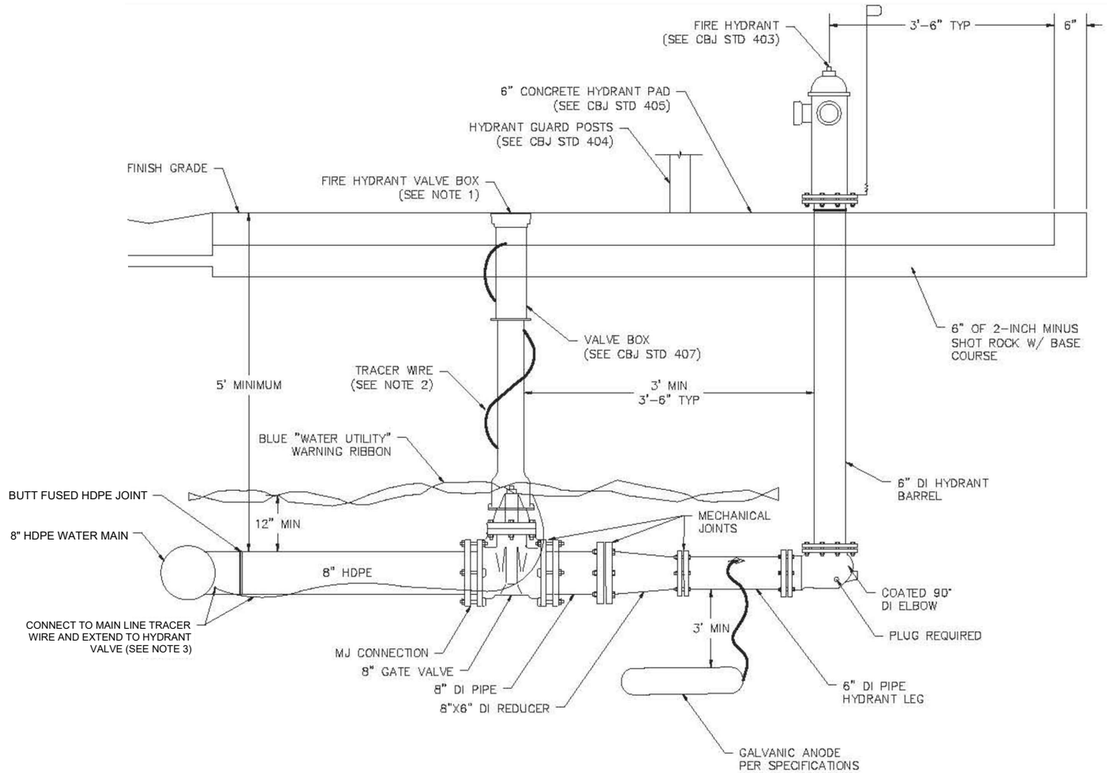


NOTES:

1. BACKFILL MATERIAL SHALL BE PLACED IN 12" MAXIMUM LIFTS.
2. TRENCH EXCAVATION AND SHORING SHALL COMPLY WITH LOCAL, STATE, AND OSHA REGULATIONS AND REQUIREMENTS.
3. INDICATED SLOPE IS FOR PAY QUANTITY DETERMINATION ONLY FOR IMPORTED BACKFILL GRAVEL AND RESURFACING REQUIREMENTS.
4. IF UNSUITABLE PIPE FOUNDATION MATERIAL IS ENCOUNTERED DURING EXCAVATION, ENGINEER MAY DIRECT THE CONTRACTOR TO OVER-EXCAVATE AND BACKFILL WITH SUITABLE MATERIAL.
5. THE DITCH LINE, IF ONE EXISTS, SHALL BE RESHAPED IN SUCH A MANNER TO ALLOW POSITIVE DRAINAGE TO MATCH PRE-CONSTRUCTION CONDITIONS.

2/B6 TYPICAL TRENCH DETAIL

NOT TO SCALE



NOTES:

1. FIRE HYDRANT VALVE BOX TO BE INSTALLED SO THAT THE LID IS A MINIMUM OF 3/8", MAXIMUM OF 5/8" BELOW FINISHED CONCRETE, SEE CBJ STANDARD DETAIL 407.
2. TRACER WIRE SHALL BE No.10 AWG HIGH-STRENGTH COPPER CLAD STEEL WITH BLUE HDPE INSULATION JACKET. MAIN LINE TRACER WIRE SHALL NOT BE SPLICED AND SHALL BE CONTINUOUS BETWEEN VALVE BOXES. SERVICE AND HYDRANT LEGS SHALL USE WATERPROOF DIRECT BURY SPLICE CONNECTION LUGS. TRACER WIRE SHALL BE CONNECTED TO THE BOTTOM QUADRANT OF THE HDPE WATER PIPE. EACH END OF TRACER WIRE SHALL BE TERMINATED AT A VALVE BOX. TRACER WIRE SHALL RUN OUTSIDE THE VALVE BOX AND BE INSERTED INTO THE VALVE BOX THROUGH A 3/4" DRILLED HOLE WITHIN 9"-12" OF THE TOP. 5' OF ADDITIONAL TRACER WIRE SHALL BE NEATLY COILED WITHIN THE VALVE BOX.
3. TRACER SPLICE CONNECTIONS ARE TO BE CONSTRUCTED USING DRYCONN WATERPROOF DIRECT BURY LUGS AS MANUFACTURED BY KING INNOVATION OR APPROVED EQUAL.
4. HYDRANT BARREL AND VALVE BOX SHALL BE PLUMB.
5. GROUND COVER SHALL BE 5' MINIMUM. ADDITIONAL COVER (MORE THAN 5') MAY BE REQUIRED BY THE ENGINEER.
6. ALL HYDRANTS SHALL BE PAINTED CATERPILLAR YELLOW, AND THE NUMBER OF FEET TO THE VALVE SHALL BE PRINTED IN BLACK ½" BLOCK LETTERS JUST BELOW THE TOP BONNET. PORT CAPS SHALL BE COLOR CODED PER NFPA STANDARD 291 AS DIRECTED BY THE CBJ WATER UTILITIES DEPARTMENT.
7. HYDRANT SHALL BE MUELLER CENTURION 200 OR 250 WITH INTEGRAL STORZ PUMPER CONNECTION OR APPROVED EQUAL. CLOW F2500 SERIES HYDRANTS ARE NO LONGER ACCEPTED BY CBJ.
8. ALL BOLTS TO HAVE THREADED ZINC CAP.

3/B6 MODIFIED FIRE HYDRANT ASSEMBLY

NOT TO SCALE

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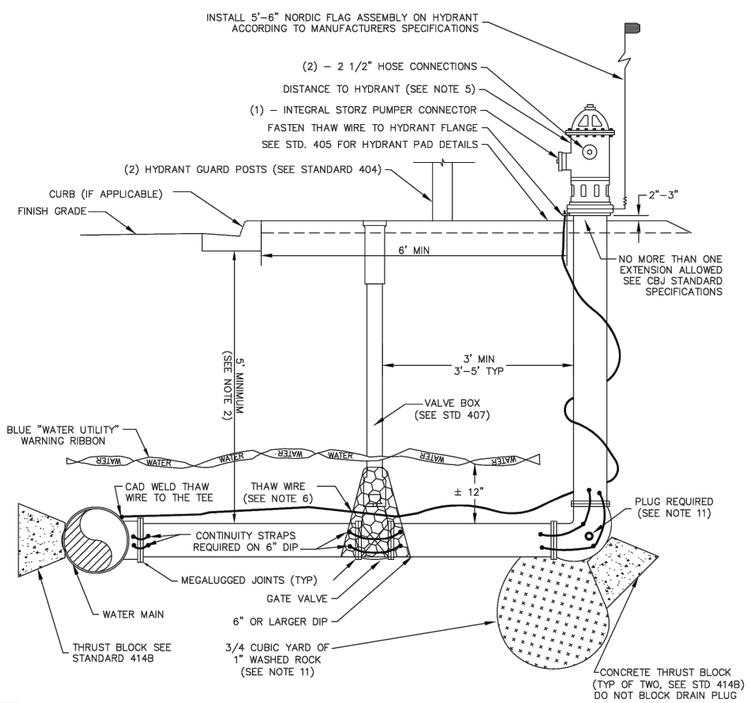
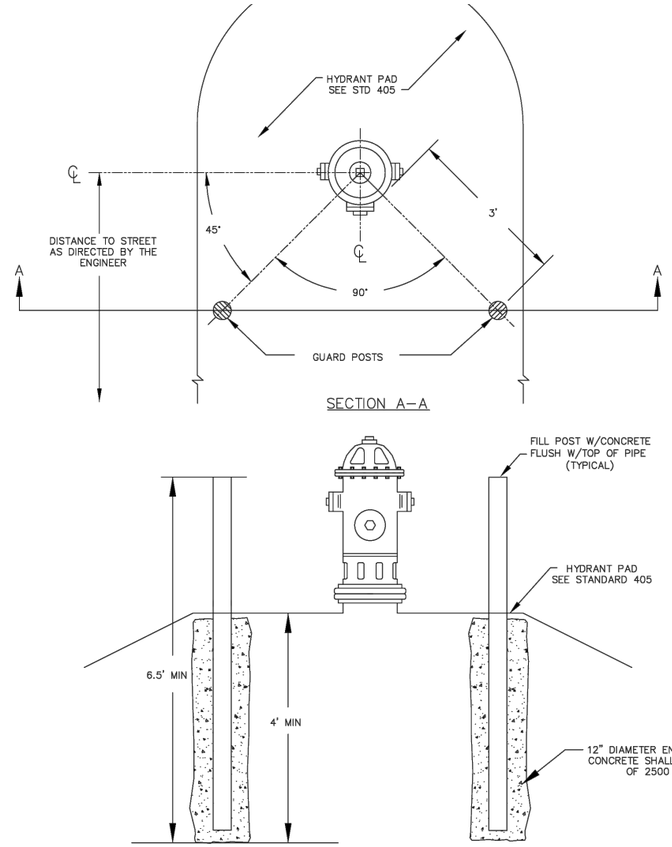


NOTES

1. HYDRANT BARREL AND VALVE BOX SHALL BE PLUMB.
2. GROUND COVER SHALL BE 5' MINIMUM. ADDITIONAL COVER (MORE THAN 5') MAY BE REQUIRED BY THE ENGINEER.
3. WATER PIPE SHALL BE 6" MIN. D.I.P. AND ALL CONNECTIONS SHALL BE MEGALUGED OR CONNECTED WITH LOCKING FIELD GASKETS.
4. BENDS BETWEEN THE HYDRANT AND THE MAIN SHALL NOT EXCEED 11 1/4° UNLESS APPROVED BY ENGINEER.
5. ALL HYDRANTS SHALL BE PAINTED CATERPILLAR YELLOW, AND THE NUMBER OF FEET TO VALVE SHALL BE PRINTED IN BLACK 1/2" BLOCK LETTERS JUST BELOW TOP BONNET. PORT CAPS SHALL BE COLOR CODED PER NFPA STANDARD 291 AS DIRECTED BY THE CBJ WATER UTILITIES DEPARTMENT.
6. THAW WIRE SHALL BE #2 COPPER WITH TYPE THW INSULATION. THAW WIRE SHALL BE BOLTED OR CAD WELDED TO THE TEE AT THE MAIN. CONTINUITY STRAPS ARE REQUIRED ON 6" DIP. CONTINUITY AND ARRANGEMENT FOR TESTING BY CBJ WATER UTILITIES IS THE RESPONSIBILITY OF THE INSTALLER/CONTRACTOR.
7. INSTALL A PAVED HYDRANT PAD PER STANDARD 405 AND GUARD POSTS PER STANDARD 404.
8. HYDRANT SHALL BE MUELLER CENTURION 200 OR 250 WITH INTEGRAL STORZ PUMPER CONNECTION OR APPROVED EQUAL. CLOW F2500 SERIES HYDRANTS ARE NO LONGER ACCEPTED BY CBJ.
9. THIS STANDARD TO BE USED FOR ALL HYDRANTS AND BLOW–OFFS. ALTERNATE BLOW–OFF TYPE HYDRANTS ARE NO LONGER ACCEPTED BY CBJ.
10. FIRE HYDRANT TO THE VALVE SHALL BE TESTED TO A MINIMUM OF 200 PSI FOR TWO (2) HOURS PER STANDARD SPECIFICATION SECTION 02601 ARTICLE 3.5 PARAGRAPH B 2.
11. CBJ WATER UTILITIES DEPARTMENT SHALL DETERMINE FOR EACH HYDRANT INSTALLATION IF HYDRANT PLUGS SHALL BE REMOVED FOR SELF DRAINING. DO NOT BLOCK PLUG WITH THE THRUST BLOCK.

1 / B7 FIRE HYDRANT DETAIL

NOT TO SCALE



NOTES

1. GUARD POST ARE REQUIRED ON ALL HYDRANTS EXCEPT THOSE IN SIDEWALKS, ALONG STATE HIGHWAYS OR AS DIRECTED BY THE ENGINEER.
2. GUARD POST SHALL BE 4" DIAMETER, SCHEDULE 40 STEEL PIPE WITH A MINIMUM 4 FEET OF BURIAL AND 2–1/2 FEET OF EXPOSURE.
3. POSTS SHALL BE FILLED FLUSH WITH CONCRETE AND PAINTED WITH 4C–184 CATERPILLAR YELLOW ENAMEL AFTER INSTALLATION.
4. POSTS SHALL NOT BLOCK OPERATION OF VALVE.

2 / B7 HYDRANT GUARD POST DETAILS

NOT TO SCALE

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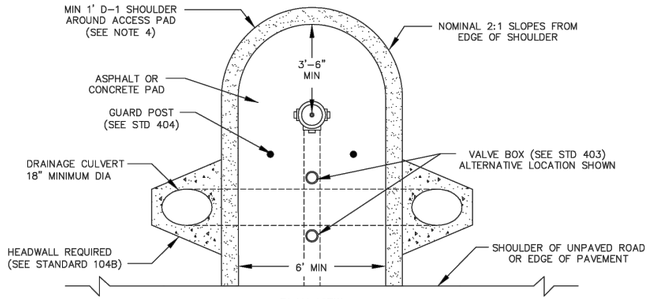
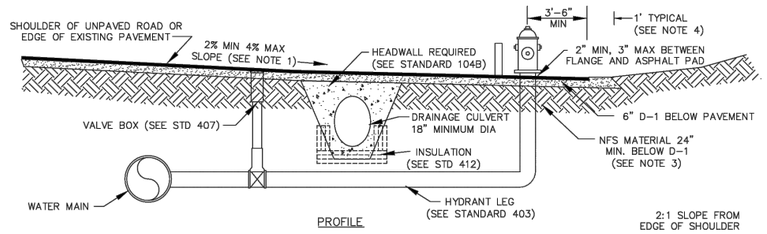
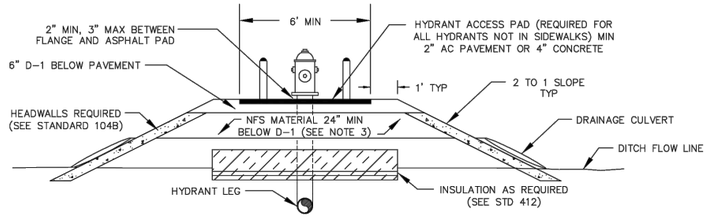


PLAN VIEW



PROFILE

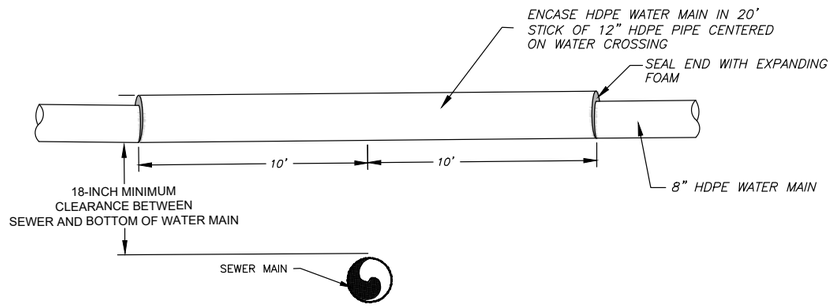


ELEVATION VIEW

NOTES:

1. FROM EDGE OF ROAD TO DITCH LINE, SLOPE SURFACE OF HYDRANT PAD TO MATCH EXTENSION OF ROADWAY CROWN.
2. SEED SIDE SLOPES IN ACCORDANCE WITH SECTION 02710.
3. NFS BACKFILL AND D-1 IN PAD SHALL CONFORM WITH MATERIALS AND COMPACTION REQUIREMENTS OF STANDARD 102A.
4. EXTEND LAYER OF D-1 TO EDGE OF PAD SHOULDER MINIMUM 1 FOOT.
5. 1 FOOT MINIMUM OFFSET FROM EDGE OF PAVEMENT TO TOP OR TOE OF SLOPE.
6. NO HEADWALLS ARE TO BE CONSTRUCTED WITHIN THE ADOT RIGHT-OF-WAY UNLESS APPROVED BY THE ENGINEER.
7. MINIMUM 2" AC PAVEMENT OR 4" CONCRETE REQUIRED ON ALL HYDRANT PADS.

1 / B8 HYDRANT PAD DETAIL
NOT TO SCALE



NOTE 1: CARRIER PIPE SHALL BE PAID UNDER THE 12" WATER LINE BID ITEM

NOTE 2: PIPE BEDDING WILL BE ADOT&PF GRADATION D-1 AS SPECIFIED.

NOTE 3: CONTRACTOR TO ENSURE THE MAIN IS NOT RESTING DIRECTLY ON THE CARRIER PIPE.

2 / B8 SEWER/WATER/STORM CROSSING DETAILS
NOT TO SCALE

ANODES

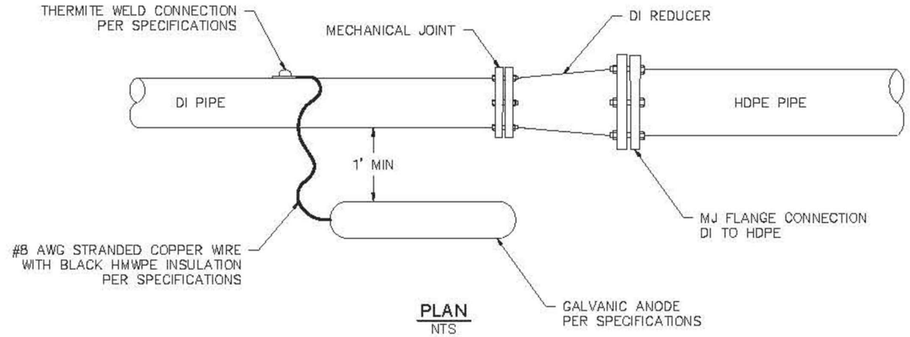
1. ANODES SHALL BE 18-LBS BARE WEIGHT ZINC WITH PREPACKAGED ANODE BACKFILL.
2. ACCEPTABLE ANODE MODELS ARE:
   A. MODEL NO ZUR-18 FROM FARWEST INDUSTRIES
   B. MODEL S18 FROM MESA PRODUCTS
   C. APPROVED EQUAL
3. INSTALL TYPE, SIZE, AND NUMBER OF ANODES SPECIFIED.
4. INSTALL 2 ANODES TO ALL CONNECTIONS TO EXISTING CI OR DI PIPE 12-INCH DIAMETER AND LARGER. INSTALL 1 ANODE TO ALL CONNECTIONS TO EXISTING CI OR DI PIPE 12-INCH DIAMETER AND SMALLER.
5. CONDUCTOR WIRE SHALL BE A MINIMUM OF 10-FEET IN LENGTH, SIZE #8 OR LARGER, AND INSULATED WITH HIGH MOLECULAR WEIGHT POLYETHYLENE.
6. PREPACKAGED ANODE SHALL BE SATURATED WITH WATER PRIOR TO BACKFILL.
7. ANODES SHALL BE PLACED IN NATIVE EARTH BACKFILL. DO NOT PLACE IN PIPE BEDDING MATERIAL.

THERMITE (EXOTHERMIC) WELDING

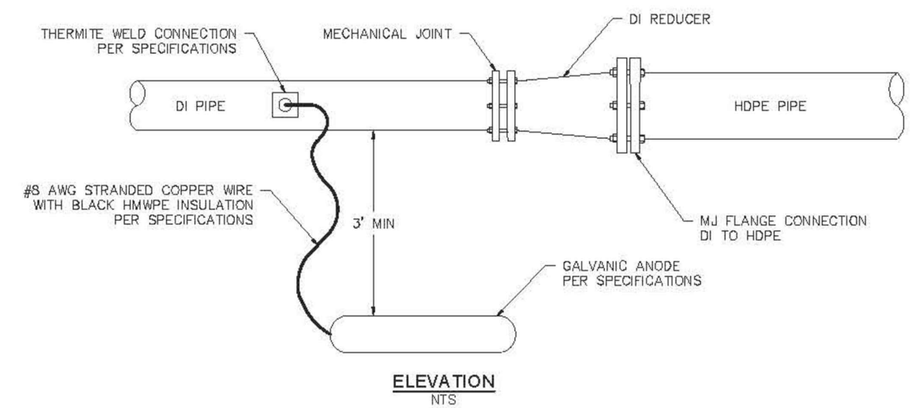
1. THERMITE WELD MATERIALS SHALL BE DESIGNED FOR CONNECTION OF COPPER TO CI AND DI SURFACES AND SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
2. ACCEPTABLE MANUFACTURERS OF THERMITE WELD PRODUCTS ARE:
   A. CADWELD BY ERICO PRODUCTS INC.
   B. THERMOWELD BY CONTINENTAL INDUSTRIES INC.
   C. APPROVED EQUAL
3. A 2-INCH SQUARE AREA IN THE PIPE SURFACE SHALL BE GROUND GLEAN PER MANUFACTURERS RECOMMENDATIONS PRIOR TO THERMITE WELDING.
4. WIRE ENDS SHALL HAVE PROPER ADAPTER SLEEVES TO ENSURE PROPER BOND. #8 AWG SHALL HAVE ADAPTER SLEEVES SPECIFIED BY THERMITE WELD MANUFACTURER. FIELD INSTALLED SLEEVES SHALL HAVE WIRE CONDUCTOR EXTEND 1/4-INCH BEYOND END OF SLEEVE.
5. WIRE CONNECTION SHALL BE TESTED FOR INTEGRITY PRIOR TO COATING.
6. CONTINUITY STRAPS SHALL BE #2 AWG COPPER STRANDED WIRE WITH THW INSULATION AND SHALL BE ATTACHED TO THE PIPE BY THERMITE WELDING AND COATED AND SEALED AS DESCRIBED BELOW.

COATING AND SEALING

1. ALL TERMITE WELDS SHALL BE PROTECTED AND SEALED BY:
   A. PREFABRICATED THERMITE WELD CAPS, SIZED ACCORDING TO WIRE SIZE, MINIMUM DIMENSIONS OF 4-INCH BY 4-INCH FILLED WITH ELASTOMERIC COATING OR,
   B. HEAT SHRINK SLEEVE PIPE ENCASEMENT AFTER COATING TERMITE WELD WITH ELASTOMERIC MASTIC COATING – HEAT SHRINK SLEEVE SHALL BE CANUSA AQUA SEAL OR APPROVED EQUAL.
2. ALL PIPE SURFACE COATING DAMAGED BEYOND THE WELD CAPS OR HEAT SHRINK SHALL BE COATED WITH PROTAL 7125 FROM DENSO NORTH AMERICA OR APPROVED EQUAL.



PLAN
NTS



ELEVATION
NTS

3 / B8 GALVANIC INSTALLATION FOR CONNECTION TO EXISTING METALLIC PIPE
NOT TO SCALE

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

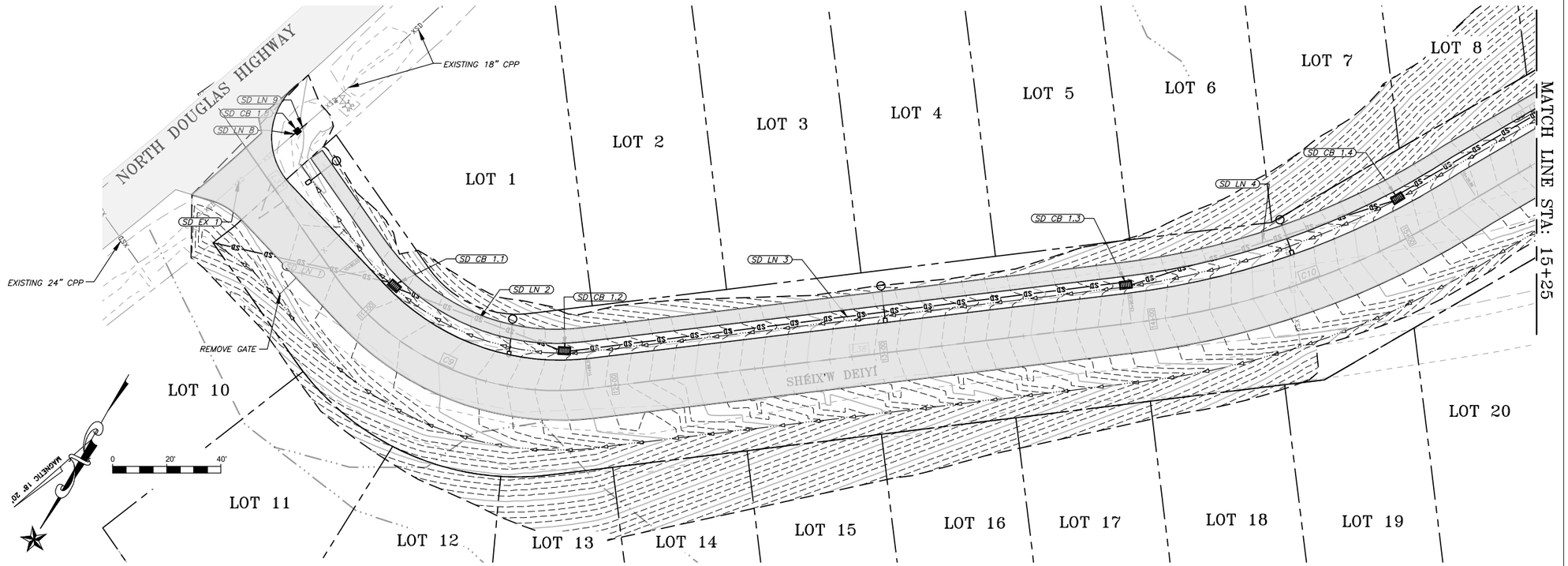
STATE OF ALASKA 49th
TREVOR SANDE
CE 9778
2/11/2026
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
TYPICAL SECTIONS

B8

SHEET:
09 of 14

PLAN



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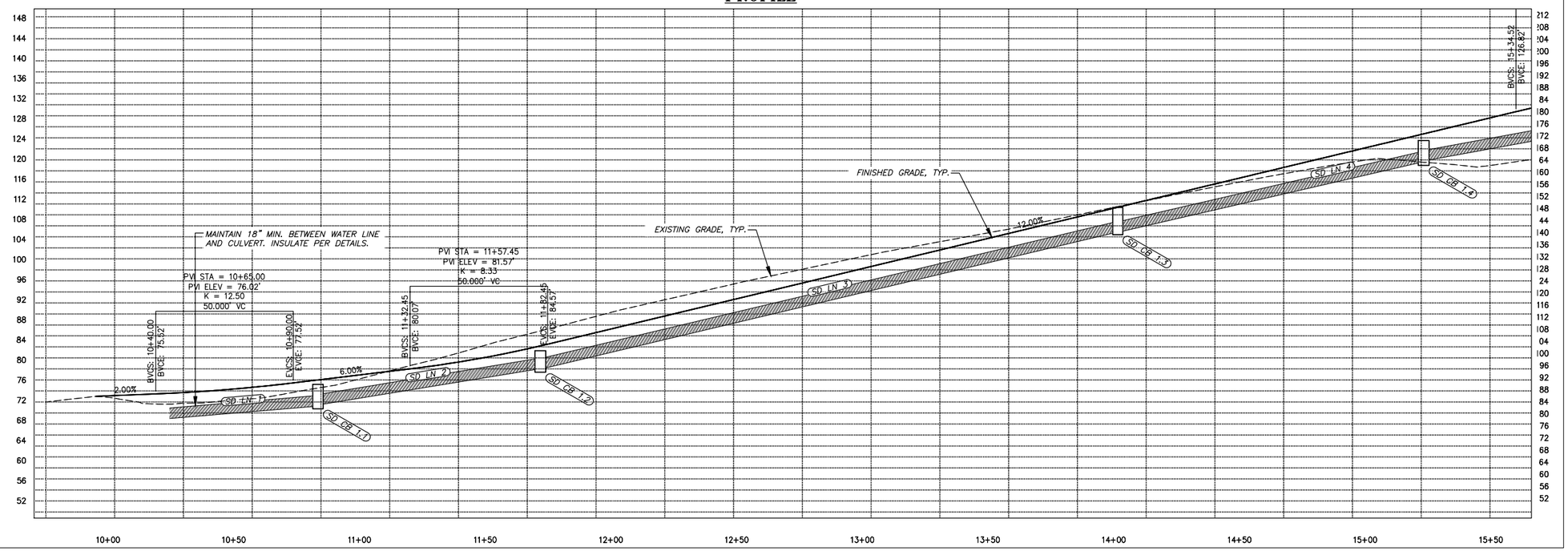

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
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AELC 576

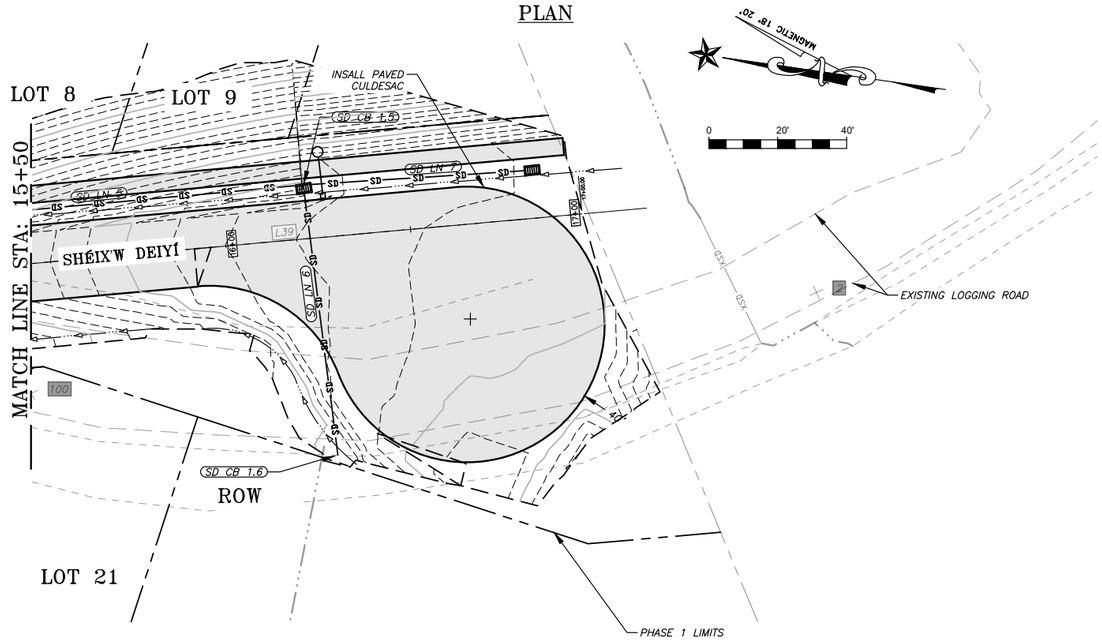
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PLAN AND PROFILE

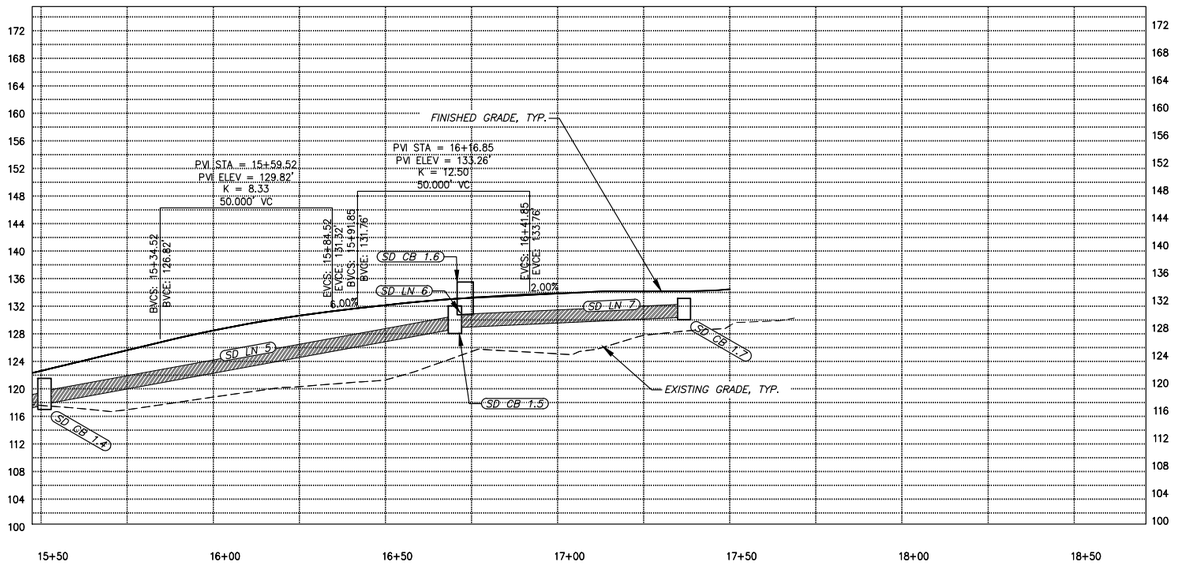
F1

SHEET:
09 of 22

PLAN



PROFILE



REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

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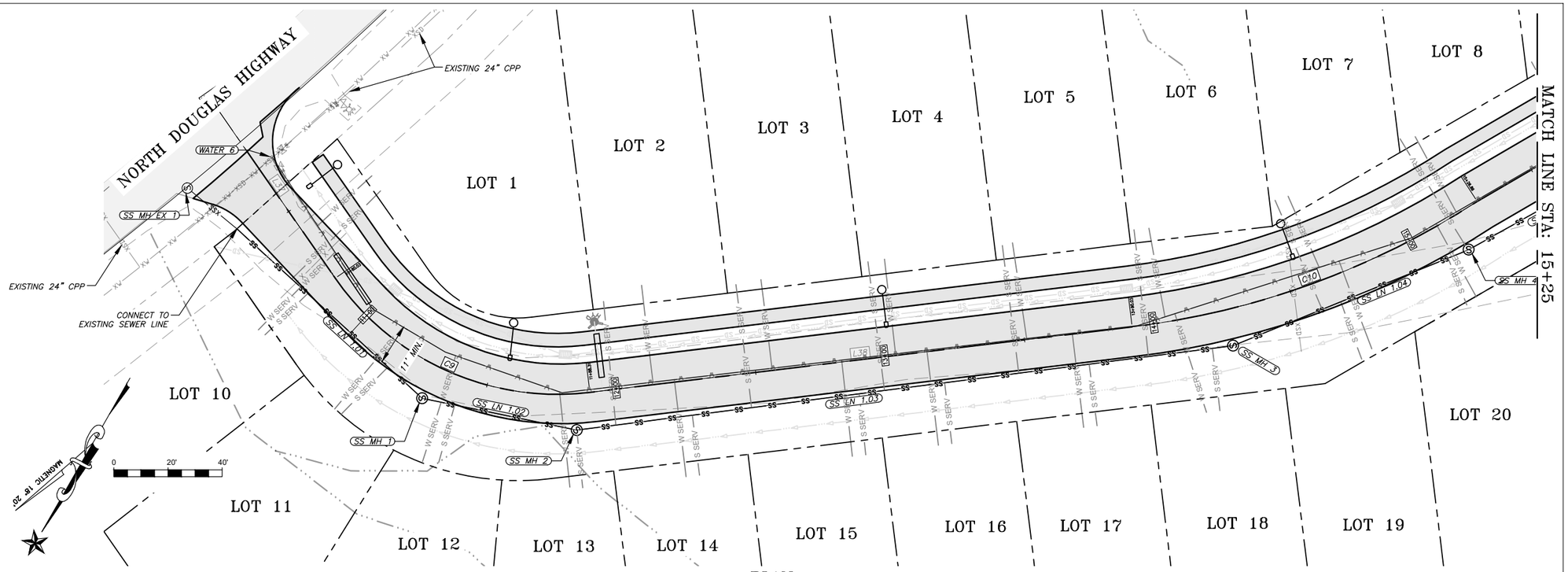
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PLAN AND PROFILE

F2

SHEET:
10 of 22



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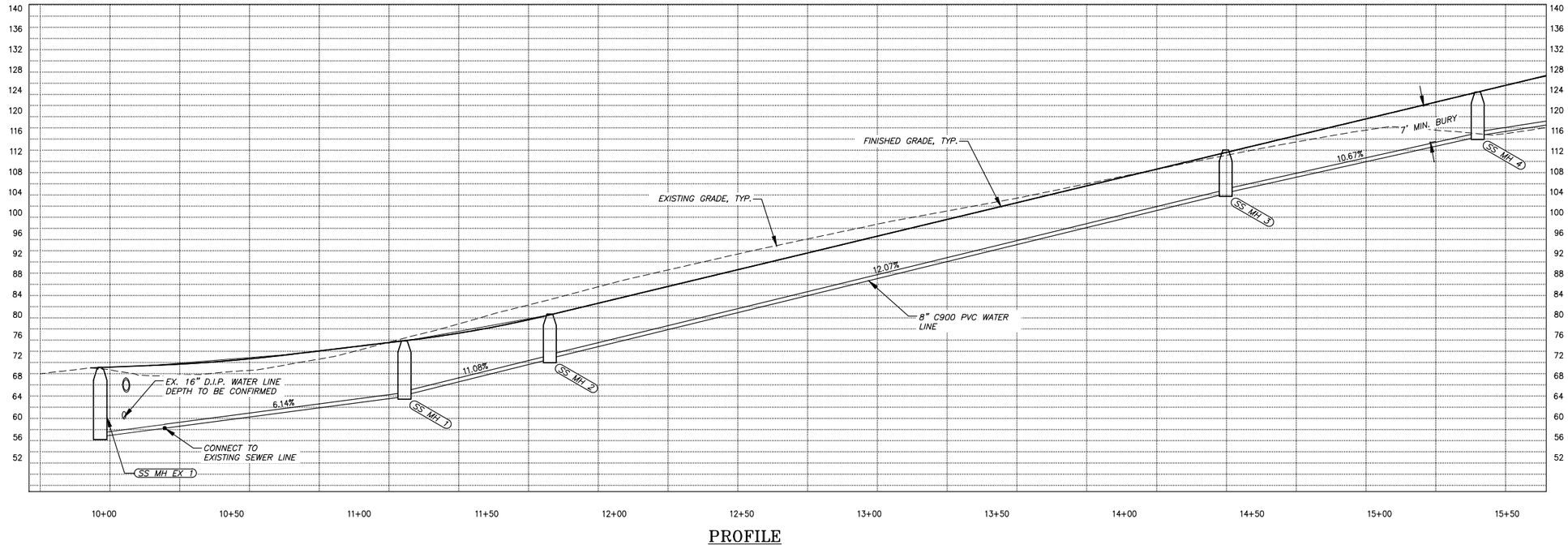

PROFILE

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
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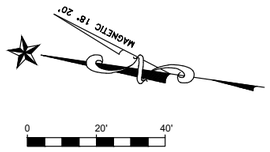
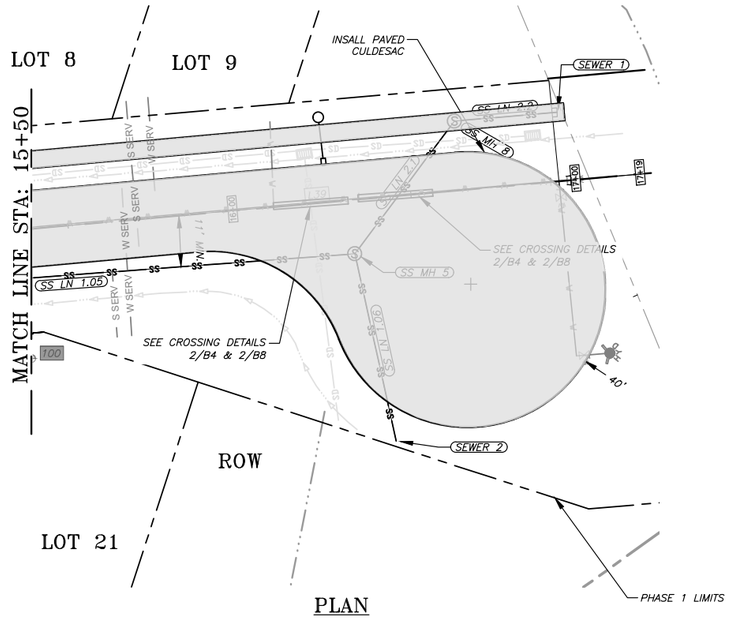
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PLAN AND PROFILE

U1

SHEET:
11 of 14





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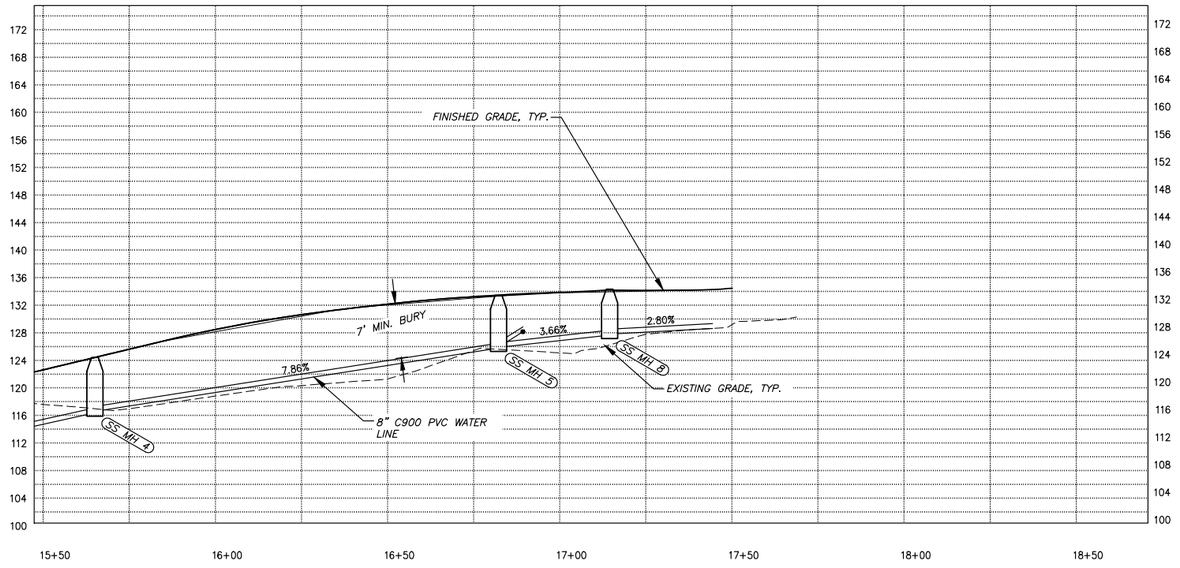

PROFILE

REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: TS
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DATE: 9/5/2025
PROJECT #: 222321.10

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STATE OF ALASKA
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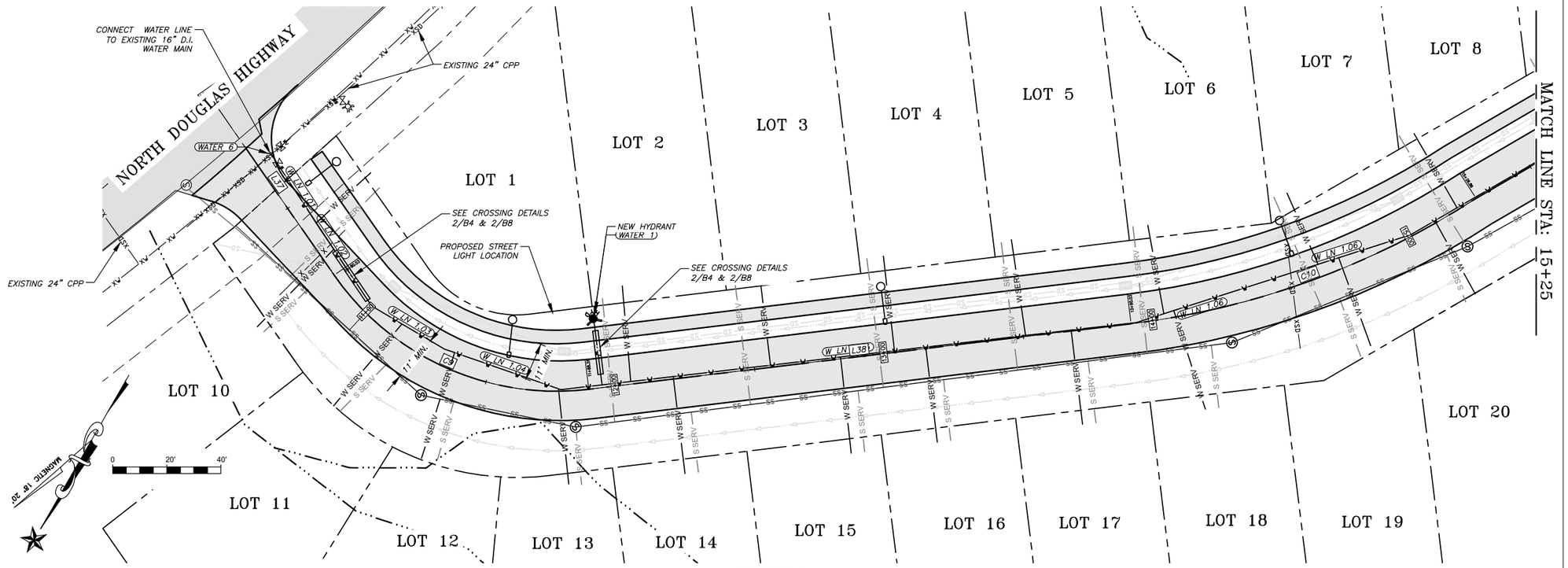
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PLAN AND PROFILE

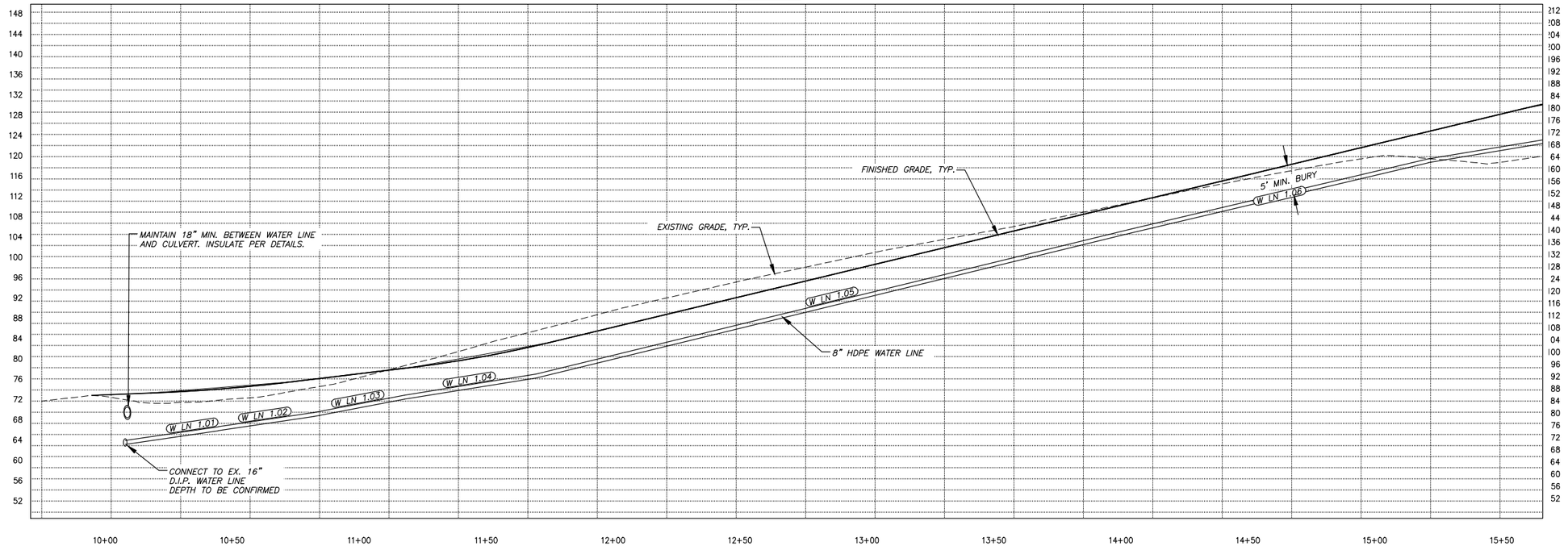
U2

SHEET:
12 of 14

PLAN



PROFILE



REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

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KETCHIKAN, ALASKA 99901
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AELC 576

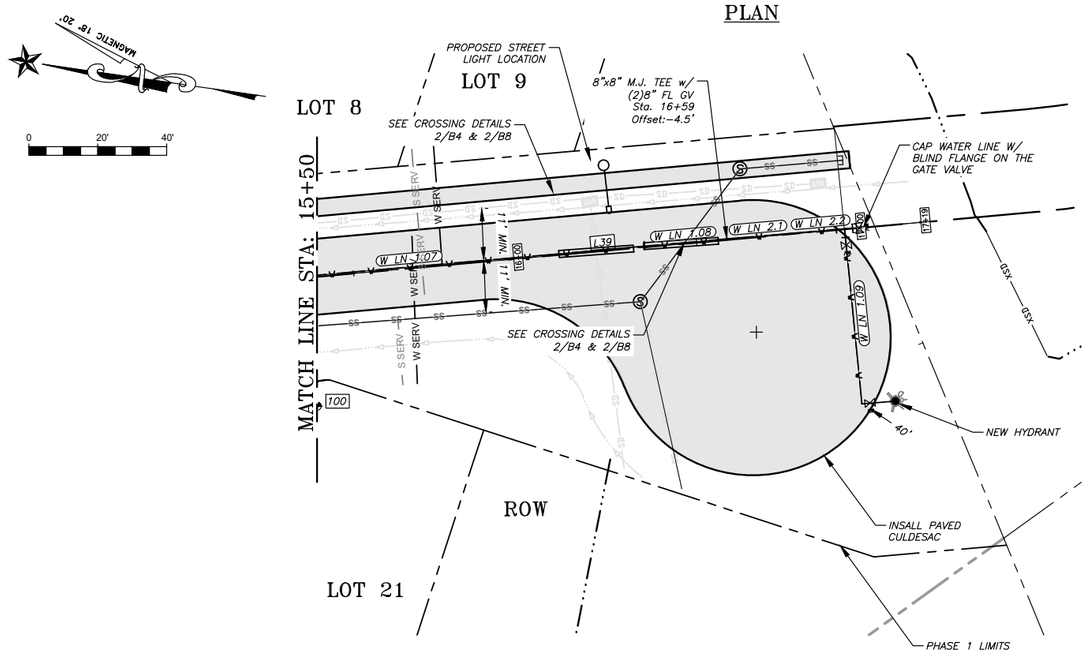
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PLAN AND PROFILE

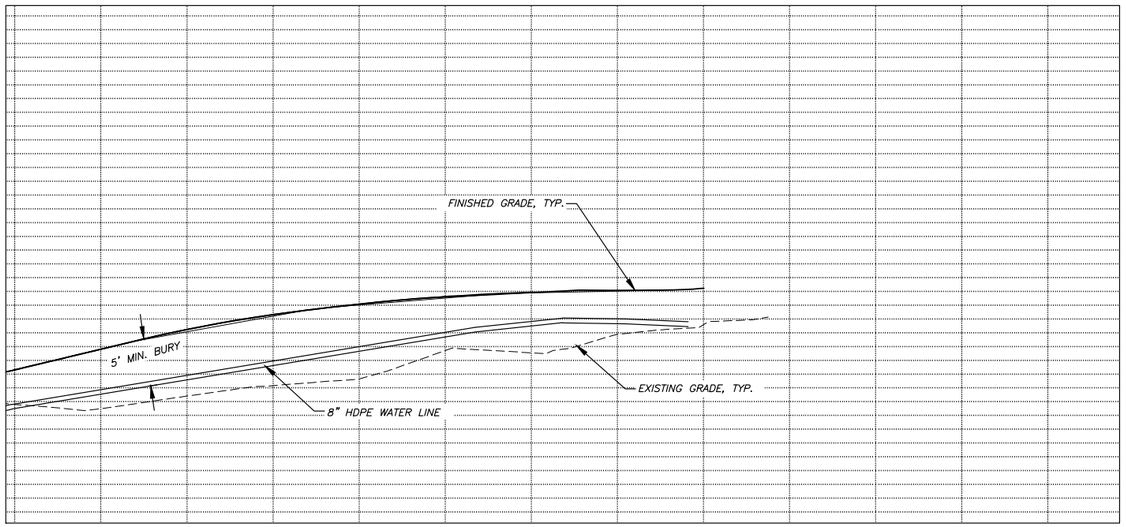
W1

SHEET:
13 of 14

PLAN



PROFILE



REVISIONS:
REV 1: WATER AND SEWER PROFILES

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: TS
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7160 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CR 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PLAN AND PROFILE

W2

SHEET:
14 of 14

SEET KANAX DUTEEN
ELECTRIC UTILITY DESIGN
JUNEAU, ALASKA

SHEET LIST TABLE	
SHEET NO.	SHEET TITLE
E1	GENERAL NOTES, SHEET INDEX, & LEGEND
E2	SITE PLAN – PHASE 1
E3	ELECTRIC UTILITY PLAN STA 10+00 TO 12+24
E4	ELECTRIC UTILITY PLAN STA 12+24 TO 14+74
E5	ELECTRIC UTILITY PLAN STA 14+74 TO 17+19
E6	LOAD CENTER DETAILS
E7	LIGHT POLE DETAILS
E8	SINGLE LINE DIAGRAM – POWER UTILITY
E9	RISER DIAGRAM – TELEPHONE
E10	RISER DIAGRAM – TV
E11	SINGLE PHASE TRANSFORMER MOUNTING DETAIL
E12	PRIMARY PEDESTAL INSTALLATION DETAIL
E13	SECONDARY POWER PEDESTAL INSTALLATION DETAIL
E14	TRENCH DETAIL
E15	STATION AND OFFSET TABLES

LEGEND	
AEL&P	ALASKA ELECTRIC LIGHT & POWER
APPROX	APPROXIMATELY
C	CIRCUIT
CKT	CIRCUIT
CU	BARE COPPER
C/B	CIRCUIT BREAKER
20/1	CIRCUIT BREAKER (AMPS/POLES)
	CONTACTOR
DIST	DISTANCE
EXTG	EXISTING

LEGEND	
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HOA	HAND–OFF–AUTO
	HAND–OFF–AUTO SWITCH
J–BOX	JUNCTION BOX
LC	LIGHTING CONTACTOR
	LIGHT POLE WITH LUMINAIRE
MAX	MAXIMUM

LEGEND	
M	METER
MIN	MINIMUM
NEC	NATIONAL ELECTRICAL CODE
PED	PEDESTAL
PE	PHOTOCELL
PVC	POLYVINYL CHLORIDE CONDUIT
	RECEPTACLE
REC	RECEPTACLE
TYP–#	TYPICAL
XFMR	TRANSFORMER

GENERAL NOTES:

1. PERFORM ALL WORK PER NATIONAL ELECTRICAL CODE (NEC), 2020 EDITION.
2. PERFORM ALL WORK AS SHOWN ON DRAWINGS AND AS REQUIRED TO PROVIDE OPERATIONAL SYSTEMS.
3. COORDINATE WITH POWER, TELEPHONE, AND TELEVISION UTILITIES TO ALLOW THEM TO PERFORM THEIR WORK. UTILITY WORK WILL BE PAID FOR BY OTHERS. DO NOT INSTALL ANYTHING IN CONFLICT WITH UTILITIES. BRING ALL CONFLICTS TO THE ATTENTION OF THE ENGINEER. OBTAIN LOCATES BEFORE WORKING TO AVOID NEWLY INSTALLED UTILITIES. POWER, TELEPHONE, AND TV UTILITY FACILITY DRAWINGS ON SHEETS E8 – E13 ARE SHOWN TO INFORM THE CONTRACTOR WHERE AND HOW THEY WILL BE INSTALLED TO ALLOW FOR PROPER COORDINATION. THE POWER, TELEPHONE AND TV UTILITY COMPANIES WILL INSTALL THEIR FACILITIES, NOT THE CONTRACTOR. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR THE STREET LIGHTING SYSTEM WORK, IN ITS ENTIRETY, INCLUDING ALL MATERIAL PROCUREMENTS AND INSTALLATION WORK OF CONDUIT, CONDUCTORS, GROUNDING, J–BOXES, LIGHT POLES, LIGHT POLE FOUNDATIONS, LIGHT FIXTURES, LIGHTING LOAD CENTER, ETC. SEE NOTE 14, THIS SHEET.
4. ALL CONDUIT SHALL BE SCHEDULE 40 PVC EXCEPT ALL ROAD CROSSINGS SHALL BE SCHEDULE 80 PVC. TRANSITION TO 2" GALVANIZED RMC 90° ELBOWS AT JUNCTION BOXES. PROVIDE SCHEDULE 80 PVC WITHIN 10' OF LIGHT POLE FOUNDATIONS, TYPE 1A JUNCTION BOXES AND CONCRETE STRUCTURES. INSTALL CONDUIT PER TRENCH DETAIL, SHEET E14.
5. ALL WIRING SHALL BE IN CABLE WITH COPPER CONDUCTOR, 600V RATED XHHW–2 INSULATION, AND OVERALL PVC JACKET. PROVIDE ADDITIONAL BARE GROUND. USE BARE GROUND TO GROUND TYPE 1A JUNCTION BOXES, LIGHT POLES, FOUNDATIONS, ETC. BOND GROUND INSIDE CABLE TO LOAD CENTER AND LIGHT POLES.
6. SAFE OFF LIGHTING SYSTEM CONDUCTORS AND CABLES IN J–BOX PRIOR TO CAPPING CONDUIT AT LIMITS FOR FUTURE PHASE WORK.
7. THE SUBDIVISION IS BEING BUILT IN PHASES. THE PLAN VIEWS ARE NOT SHOWN FOR ADDITIONAL PHASES, HOWEVER OTHER DRAWINGS MAY SHOW FUTURE WORK. COORDINATE SPARE CONDUITS, EQUIPMENT PLACEMENT, ETC. WITH GENERAL CONTRACTOR TO FACILITATE ADDITIONAL PHASES IN THE FUTURE.
8. LOCATE EQUIPMENT WHERE SHOWN ON THE STATION AND OFFSET TABLES, SEE SHEET E15.
9. PROVIDE NEW STREET LIGHTING SYSTEM WITH LIGHTING LOAD CENTER WITH CAPACITY FOR ADDITIONAL LIGHTS IN FUTURE PHASES. SEE SHEETS E6 & E7 FOR STREET LIGHTING SCHEMATICS AND DETAILS. SEE NOTE 14, THIS SHEET.
10. DO NOT INSTALL ANYTHING IN CONFLICT WITH EXISTING AND NEW UTILITIES. BRING ALL CONFLICTS TO THE ATTENTION OF THE ENGINEER. UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE. OBTAIN LOCATES BEFORE WORKING TO AVOID DAMAGING UNDERGROUND UTILITIES.
11. MAINTAIN 5 FEET MINIMUM SEPARATION BETWEEN ALL ELECTRICAL AND ALL EXISTING AND NEW NON–ELECTRICAL INFRASTRUCTURE (AREA DRAIN, STORM DRAIN, ETC.)
12. COORDINATE NEW CONDUIT ROUTING WITH ALL EXISTING AND NEW OBSTRUCTIONS (STORM DRAINS, SANITARY SEWERS, ETC.). ROUTE CONDUIT BELOW OBSTRUCTIONS WHERE REQUIRED. THERE ARE MANY CONFLICTS POTENTIALLY, NOT ALL ARE NOTED. DIG WITH EXTREME CAUTION AND COORDINATE AS REQUIRED.
13. ALL WORK IS NEW UNLESS NOTED OTHERWISE.
14. PROVIDE A FULLY OPERATIONAL LIGHTING SYSTEM. COORDINATE WITH POWER UTILITY TO PROVIDE A SERVICE TO THE LOAD CENTER. ROUTE 2"C FROM LOAD CENTER TO TRANSFORMER WITH UTILITY TO PROVIDE CONDUCTORS. UTILITY WORK TO BE PAID FOR BY OTHERS. ROUTE CONDUCTORS AND CONDUIT FROM LOAD CENTER TO A JUNCTION BOX WHERE SHOWN AT END OF THE STREET. THESE CIRCUITS WILL BE EXTENDED IN THE FUTURE TO POWER LIGHT POLES ON THESE STREETS AS THEY ARE EXTENDED IN FUTURE PHASES. ROUTE CONDUIT AND CONDUCTS FROM THE LOAD CENTER TO JUNCTION BOX FOR FUTURE EXPANSION OF THE SUBDIVISION.
15. ORIENTATE ALL LIGHT POLE MAST ARMS TO BE PERPENDICULAR TO THE ADJACENT ROADWAY EDGE. POSITION LIGHT POLE J–BOXES IMMEDIATELY ADJACENT TO THE EDGE OF THE SIDEWALK.
16. SEE SPECIAL PROVISIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

MORRIS ENGINEERING GROUP Inc.
2375 JORDAN AVE. #7
JUNEAU, ALASKA 99801
PH: 907.789.3350
AECL 1010
WWW.MORRISENGINEERINGGROUP.COM

STATE OF ALASKA
49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
GENERAL NOTES, SHEET INDEX, & LEGEND

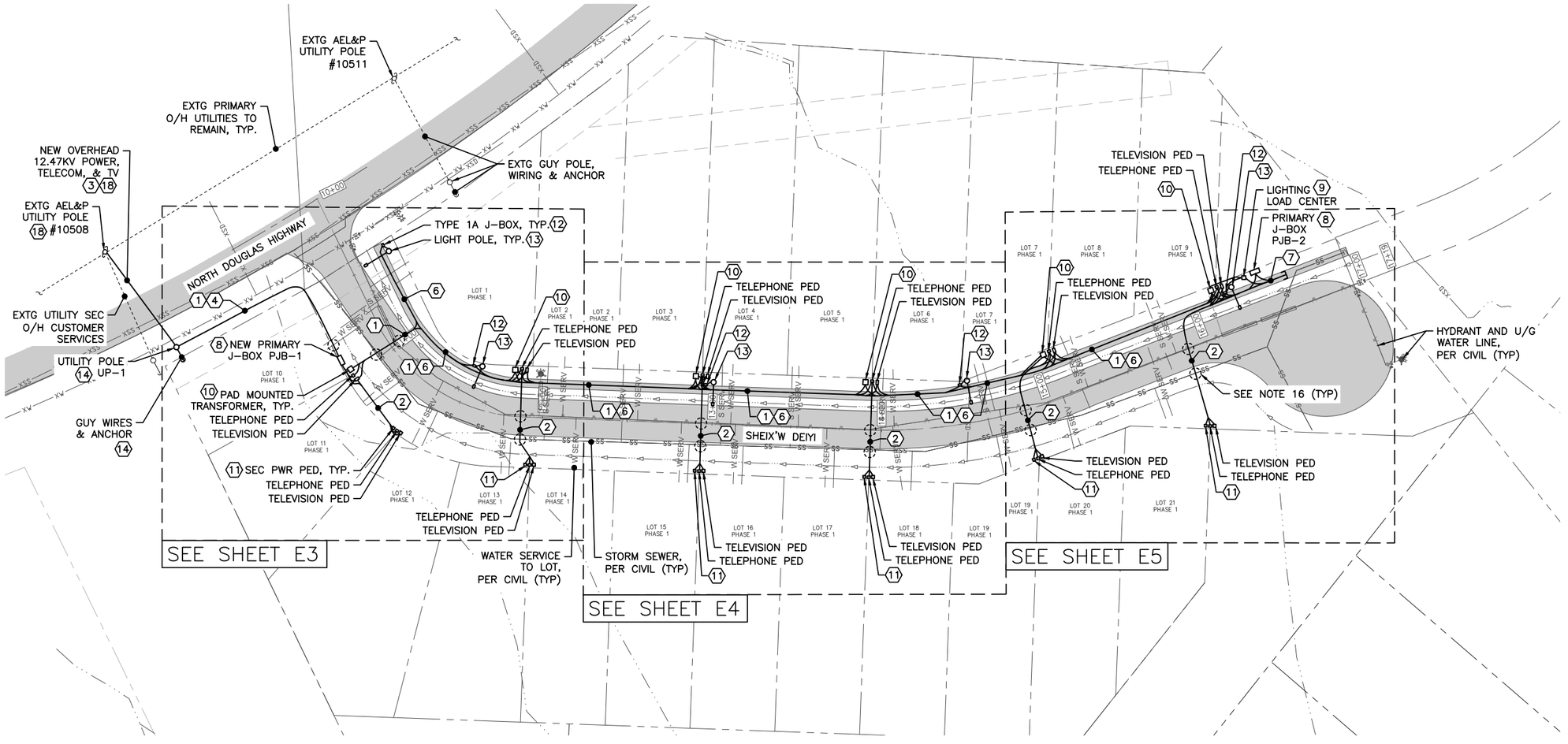
E1

SHEET:
01 of 15

SHEET NOTES (APPLICABLE TO SHEETS E2–E5):

1. 4"C, 3–PHASE POWER CABLES
   4"C, 3–PHASE POWER SPARE
   2"C, 1–PHASE POWER CABLE
   4"C, TELEPHONE CABLES
   4"C, TV CABLES
2. 2"C, 1–PHASE POWER CABLES
   2"C, 1–PHASE POWER SPARE
   2"C, TELEPHONE CABLES
   2"C, TV CABLES
3. COORDINATE WITH UTILITY COMPANIES TO PROVIDE NEW OVERHEAD DISTRIBUTION OVER NORTH DOUGLAS HIGHWAY TO RISERS ON NEW UTILITY POLE UP–1.
4. UTILITY CONDUITS FROM NEW UTILITY POLE TO PAD MOUNTED EQUIPMENT ADJACENT TO LOT 11, COORDINATE WORK WITH UTILITIES. CONDUITS INCLUDED SHALL INCLUDE: (1) 4"C PWR (3–PHASE), 4"C PWR (SPARE), 4"C TELEPHONE, 4"C TV.
5. PROVIDE UNDERGROUND CONDUITS PER TRENCH DETAIL ON SHEET E14.
6. 2"C, 3 NO. 8 & 1 NO. 10 GND CABLE AND 1 NO. 10 BARE GND
7. SPARE CONDUITS FOR NEXT PHASE, INCLUDING:
   (2) 4"C, 3–PHASE POWER SPARE
   (1) 2"C, 1–PHASE POWER SPARE
   (1) 2"C, LIGHTING SPARE
   (1) 4"C, TELEPHONE CABLE
   (1) 4"C, TV CABLE
8. 3–PHASE PRIMARY J–BOX PER DETAIL ON SHEET E12.
9. STREET LIGHTING LOAD CENTER PER DETAIL ON SHEET E6.
10. 1–PHASE PAD MOUNT RESIDENTIAL TRANSFORMER PER DETAIL ON SHEET E11.
11. 1–PHASE SECONDARY POWER PEDESTAL PER DETAIL ON SHEET E13.
12. PROVIDE STREET LIGHTING J–BOXES PER DETAIL ON SHEET E13.
13. PROVIDE STREET LIGHT POLE WITH LUMINAIRE PER DETAILS ON SHEET E7.
14. COORDINATE WITH AEL&P TO PROVIDE NEW UTILITY POLE, GUYING, CONDUIT RISERS FOR POWER, TELEPHONE, AND TV, ETC. THIS PROJECT WILL REQUIRE A DOT&PF ROW PERMIT ISSUED TO AEL&P, COORDINATE AS REQUIRED. SEE SHEET NOTE 3, SHEET E1.
15. SEE SHEET E15 FOR STATION AND OFFSET TABLES WITH MORE PRECISE EQUIPMENT AND BASE LOCATIONS. COORDINATE ALL LOCATIONS WITH CIVIL PRIOR TO WORK.
16. UNDERGROUND ELECTRICAL CROSSES NEW AND EXISTING CIVIL ELEMENTS IN MANY LOCATIONS. SEVERAL ARE MARKED WITH DASHED CIRCLES AS SHOWN HERE: ◌

    NOT ALL LOCATIONS SHOWN. COORDINATE CROSSING LOCATIONS AND CROSSING DEPTHS WITH CIVIL PRIOR TO WORK.
17. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
18. THE NEW 3–PHASE OVERHEAD WILL LIKELY REQUIRE A NEW (TALLER) POLE TO REPLACE POLE #10508. COORDINATE THIS EFFORT WITH AEL&P. NEW POLE BY AEL&P. THIS PROJECT WILL REQUIRE A DOT&PF ROW PERMIT ISSUED TO AEL&P, COORDINATE AS REQUIRED. SEE SHEET NOTE 3, SHEET E1.
19. PROVIDE 2"C, CONDUCTORS BY UTILITY (120/240V, 1–PHASE, SERVICE TO LOAD CENTER).



1 OVERALL ELECTRICAL SITE PLAN

8' 16' 32' 64'

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

MORRIS ENGINEERING GROUP inc.
2375 JORDAN AVE. #7
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WWW.MORRISENGINEERINGGROUP.COM

STATE OF ALASKA 49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
OVERALL ELECTRICAL SITE PLAN

E2

SHEET:
02 of 15

SHEET NOTES:

1. SEE SHEET E1 FOR GENERAL NOTE APPLICABLE TO THIS SHEET.
2. SEE SHEET E2 FOR KEYED & GENERAL NOTES APPLICABLE TO THIS SHEET.

NORTH DOUGLAS HIGHWAY

SHEEXW DEM

TYPE 1A J-BOX JB-1 (12)

LIGHT POLE L-1 (13)

SIDEWALK PER CIVIL

LOT 1 PHASE 1

LOT 2 PHASE 1

TYPE 1A J-BOX JB-2 (12)

LIGHT POLE L-2 (13)

50KVA POWER XMFR 2 (10)

TELEPHONE PEDESTAL 2A

TELEVISION PEDESTAL 2A

OVERHEAD 12.47KV POWER, TELECOM, & TV (3)

UTILITY POLE UP-1, W/ UTILITY CONDUIT RISER (14)

GUY WIRES & ANCHOR (14)

LOT 10 PHASE 1

PRIMARY J-BOX (8) PJB-1

10+00

12+00

10 37.5KVA POWER XFMR 1

TELEPHONE PEDESTAL 1A

TELEVISION PEDESTAL 1A

SEWER LINE (TYP) PER CIVIL, AVOID

WATER LINE (TYP) PER CIVIL, AVOID

LOT LINE (TYP) PER CIVIL

LOT 11 PHASE 1

11 SECONDARY POWER PEDESTAL 1A

TELEPHONE PEDESTAL 1B

TELEVISION PEDESTAL 1B

11 SECONDARY PWR PED 2A

TELEPHONE PEDESTAL 2B

TELEVISION PEDESTAL 2B

LOT 12 PHASE 1

LOT 13 PHASE 1

LOT 14 PHASE 1

MATCHLINE, SEE SHEET E4

1 ELECTRIC UTILITY PLAN
STA 10+00 TO 12+24

30' 5' 10' 20'

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
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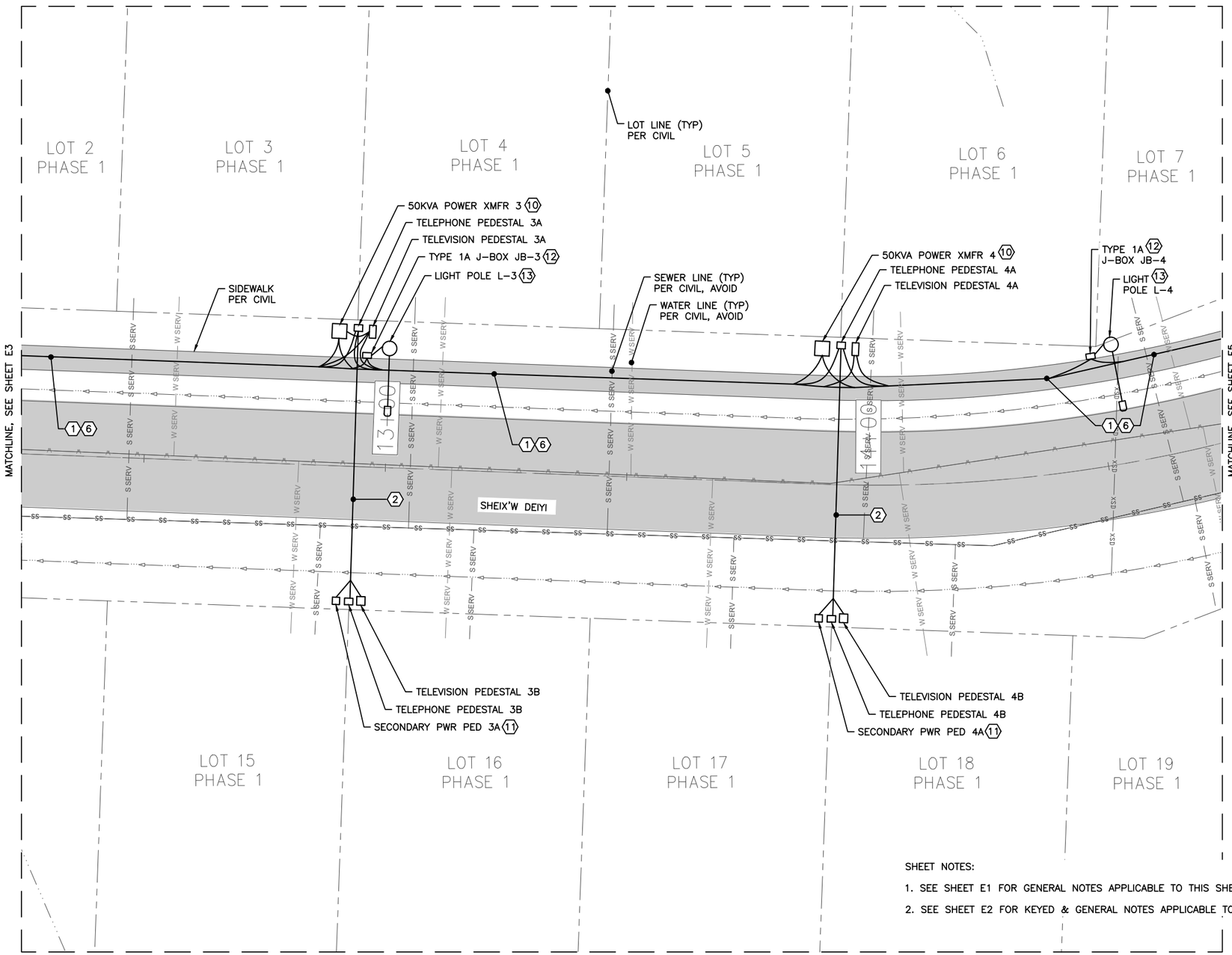
STATE OF ALASKA 49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ELECTRIC UTILITY PLAN
STA XX+XX TO YY+YY

E3

SHEET:
03 of 15



SHEET NOTES:

1. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
2. SEE SHEET E2 FOR KEYED & GENERAL NOTES APPLICABLE TO THIS SHEET.

(1) ELECTRIC UTILITY PLAN
STA 12+24 TO 14+74

30" 5' 10' 20'

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

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PH: 907.789.3350
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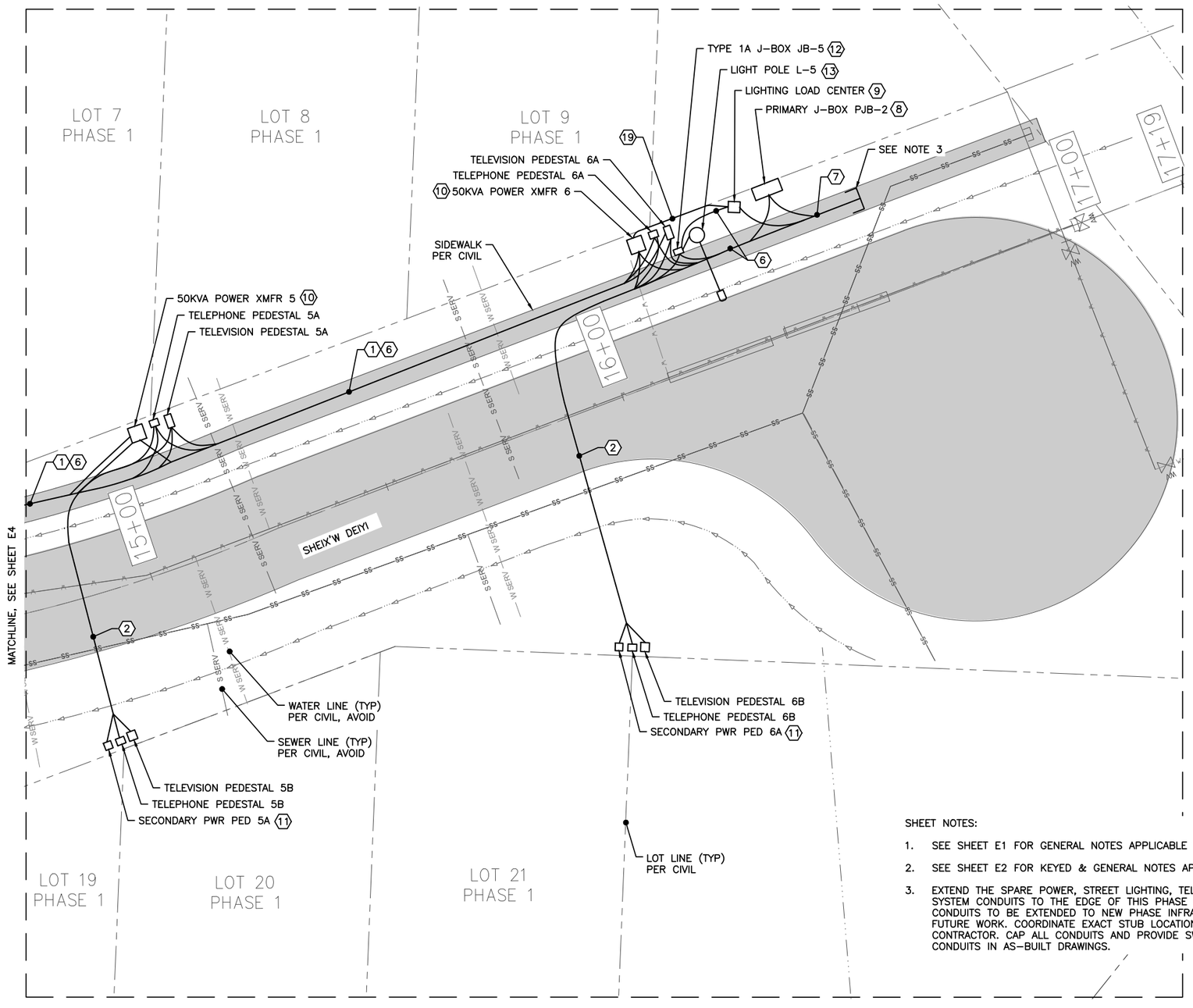
WWW.MORRISENGINEERINGGROUP.COM

STATE OF ALASKA
49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ELECTRIC UTILITY PLAN
STA XX+XX TO YY+YY

E4

SHEET:
04 of 15



SHEET NOTES:

1. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
2. SEE SHEET E2 FOR KEYED & GENERAL NOTES APPLICABLE TO THIS SHEET.
3. EXTEND THE SPARE POWER, STREET LIGHTING, TELEPHONE, TELEVISION SYSTEM CONDUITS TO THE EDGE OF THIS PHASE OF THE PROJECT. CONDUITS TO BE EXTENDED TO NEW PHASE INFRASTRUCTURE AS PART OF FUTURE WORK. COORDINATE EXACT STUB LOCATIONS WITH GENERAL CONTRACTOR. CAP ALL CONDUITS AND PROVIDE SWING-TIES TO END OF CONDUITS IN AS-BUILT DRAWINGS.

1 ELECTRIC UTILITY PLAN
STA 14+74 TO 17+19

30" 5' 10' 20'

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

MORRIS engineering group inc.
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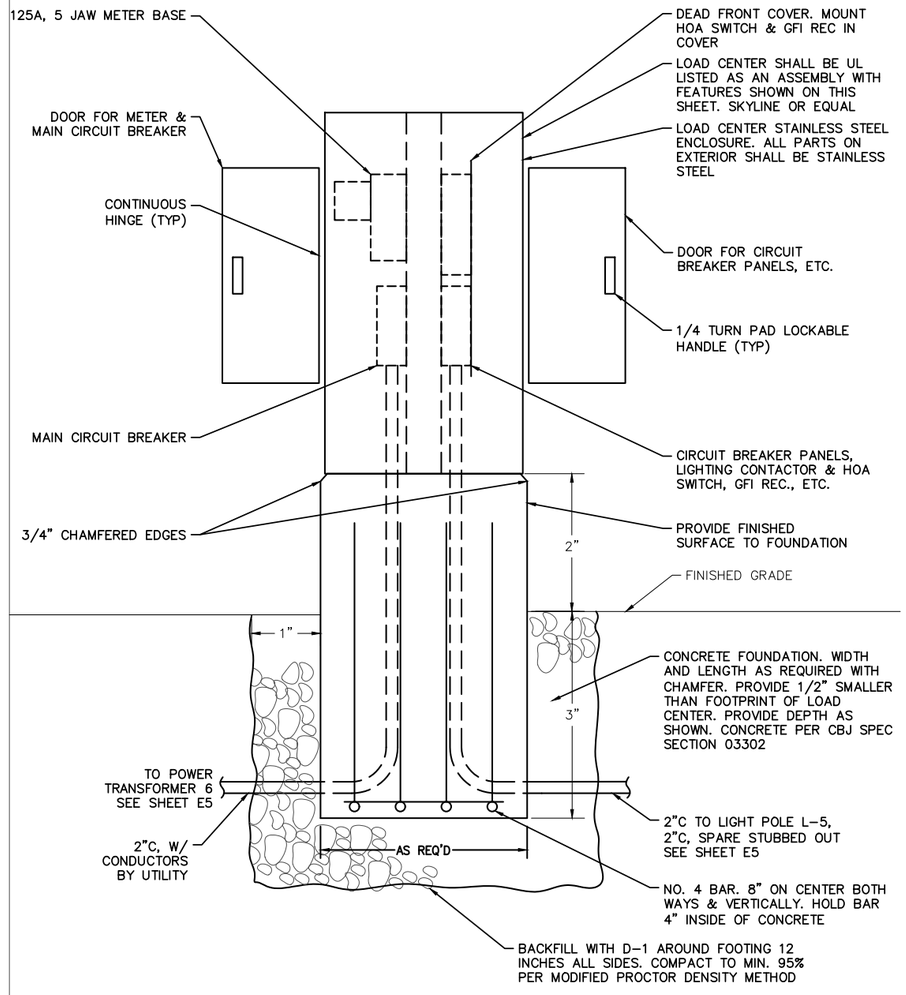
STATE OF ALASKA 49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ELECTRIC UTILITY PLAN
STA XX+XX TO YY+YY

E5

SHEET:
05 of 15

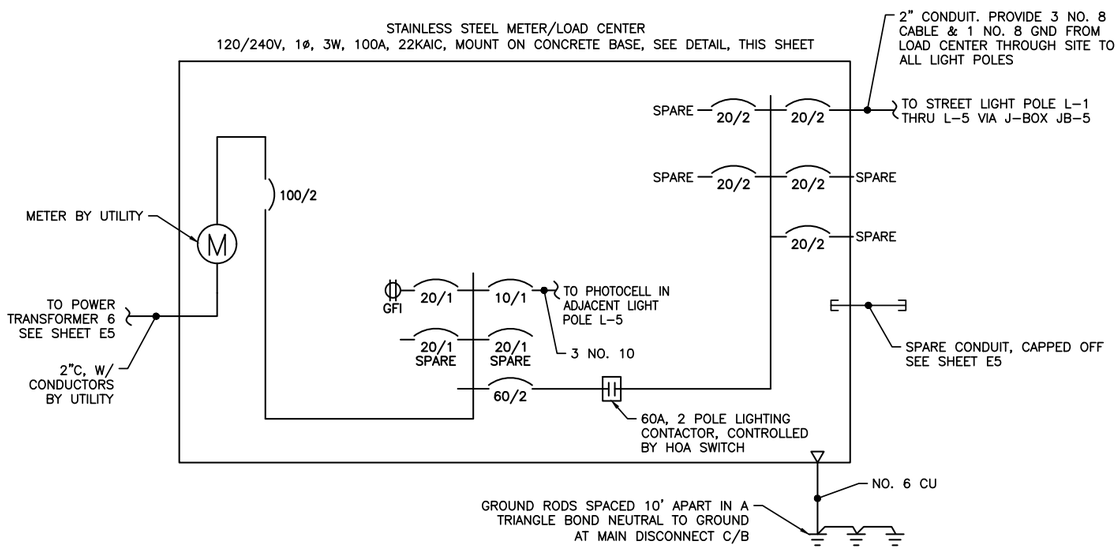


NOTES:

1. ORIENT THE LOAD CENTER SO THAT THE DOORS OF THE LOAD CENTER FACE ALONG, NOT ACROSS THE STREET.

① LIGHTING LOAD CENTER ELEVATION

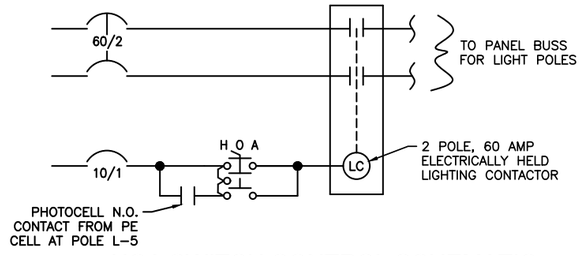
NO SCALE



NOTES:

1. THE LIGHTING CONTACTOR SHALL BE CONTROLLED BY THE PHOTOCELL WHEN THE HOA SWITCH IS IN THE AUTOMATIC POSITION.
2. A STATE OF ALASKA DOT/PF STANDARD LOAD CENTER FOR HIGHWAY ILLUMINATION MAY BE SUBSTITUTED FOR THE LOAD CENTER SHOWN. COMPLY WITH THE ELECTRICAL REQUIREMENTS SHOWN.
3. INSTALL GROUNDING HUBS, THIRD PARTY CERTIFIED FOR WET LOCATIONS (MYERS TYPE), WHEN ATTACHING CONDUITS TO THE LOAD CENTER ENCLOSURE.
4. LABEL ALL CIRCUIT BREAKERS AS TO FUNCTION AND POSITION. LABEL THE SELECTOR SWITCH "LIGHTING" AND ITS POSITIONS "ON-OFF-AUTO".
5. STORE A SCHEMATIC DIAGRAM, A CIRCUIT DIRECTORY, AND A MATERIALS LIST THAT INCLUDES THE MANUFACTURER'S NAME AND PART/CATALOG NUMBERS, ALL LAMINATED IN PLASTIC, IN A METAL POCKET ATTACHED TO THE INSIDE OF THE LOAD CENTER. INSTALL THE POCKET ON THE LOAD CENTER DOOR AND PROVIDE DRAIN HOLES IN THE LOAD CENTER TO PREVENT WATER ACCUMULATION.
6. PROVIDE ALL CIRCUIT BREAKERS SHOWN. PULL CONDUCTORS FROM CIRCUIT BREAKERS TO TERMINATION POINT (TYPE 1A JUNCTION BOX OR LIGHT POLE) FOR EACH CIRCUIT.

② SINGLE LINE DIAGRAM - LIGHTING LOAD CENTER



③ HOA SWITCH CONTROL SCHEMATIC

REVISIONS:

SEET KANAX DUTEEN UTILITY DESIGN

STATUS: PERMIT SET - rev1

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CHECKED BY: MGM
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PROJECT #: 101-72

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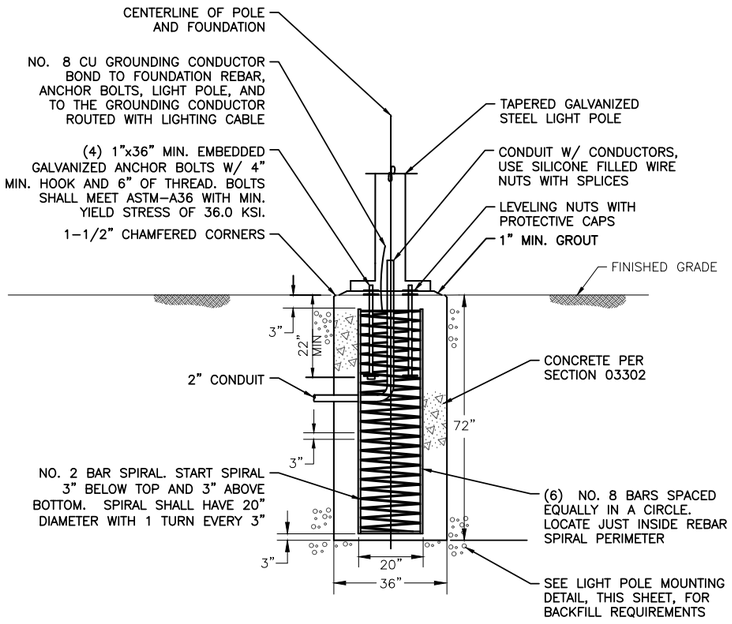
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

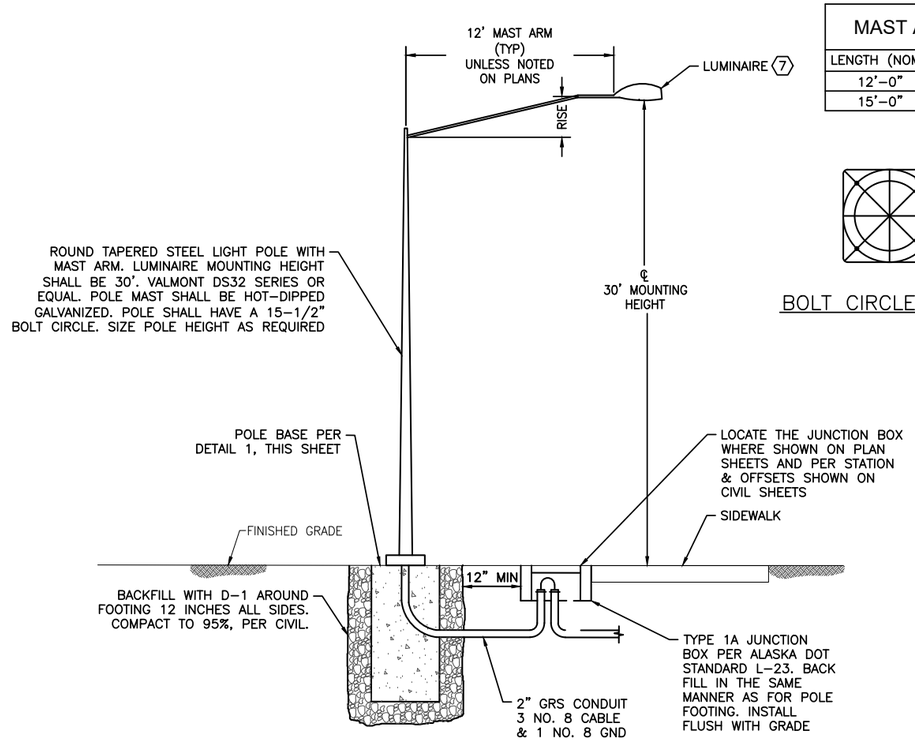
SHEET DESCRIPTION: LOAD CENTER DETAILS

E6

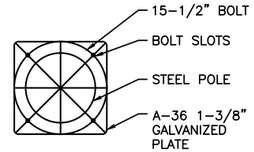
SHEET: 06 of 15



1 LIGHT POLE BASE DETAIL
NO SCALE



MAST ARM LENGTH & RISE		
LENGTH (NOM.)	RISE (MAX)	LIGHT POLE
12'-0"	3'-0"	L-2,3,4,5
15'-0"	4'-0"	L-1



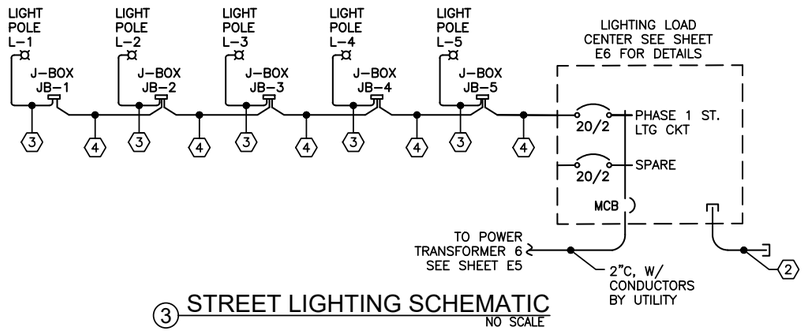
BOLT CIRCLE DETAIL
NO SCALE

2 LIGHT POLE MOUNTING DETAIL
NO SCALE

DETAIL 2 NOTES:

1. ALL SPLICES SHALL BE IN BASE OF POLE.
2. PROVIDE GROUNDING BUSHINGS ON CONDUIT. BOND GROUNDING CONDUCTOR ROUTED WITH LIGHTING CABLE TO GROUNDING BUSHINGS AND STEEL COVER, AND ROUTE TO LIGHT POLE BASE.
3. PROVIDE DOUBLE FUSED CONNECTOR KITS IN BASE OF POLE. SEC NO. 1791-DF OR EQUAL. THE FUSES SHALL BE BUSS KTK-5 FAST ACTING DUAL FERRULE TYPE OR APPROVED EQUAL.
4. LOCATE THE LIGHT POLES AND JUNCTION BOXES WHERE SHOWN ON TABLES ON SHEET E15. ROUTE CONDUIT AS SHOWN.
5. SIZE POLE WITH LUMINAIRE FOR 90 MPH SUSTAINED WINDS WITH GUSTS TO 110 MPH, EXPOSURE B (IBC 2003).
6. PROVIDE A PHOTOCELL AT TOP OF POLE L-5.

7 TYPE II DISTRIBUTION, 88W, 3000K, 120-277V DRIVER, SILVER, WITH HOUSE SIDE SHIELD, FULL CUTOFF, AUTOBAHN SERIES ATB0, ATB0-P204-MVOLT-R2-3K-HSS.



3 STREET LIGHTING SCHEMATIC
NO SCALE

DETAIL 3 NOTES:

1. SEE SHEET E6 FOR LIGHTING LOAD CENTER DETAILS.

2 PROVIDE 2"C SPARE CONDUIT FOR FUTURE PHASE LIGHTING. CAP AND PROVIDE SWING TIES AT END OF CONDUIT.

3 2"C, (1) STREET LIGHTING CIRCUIT CABLE AND GROUND.

4 2"C, (1) STREET LIGHTING CIRCUIT CABLE AND GROUND.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

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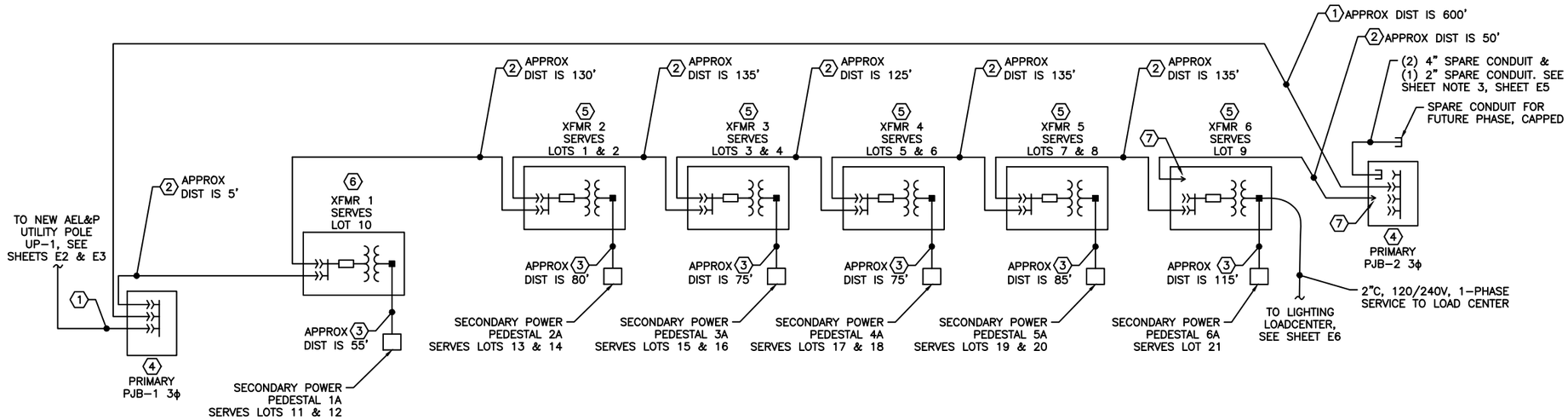
STATE OF ALASKA
49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
LIGHT POLE DETAILS

E7

SHEET:
07 of 15



① SINGLE LINE DIAGRAM - POWER UTILITY
NO SCALE

KEYNOTES:

1. 4"C, 3 NO. 1/0, 15KV, 1 NO. 1/0, 600V GND. APPROXIMATE DISTANCE SHOWN. 4"C, SPARE.
2. 2"C, 1 NO. 2 WITH CONCENTRIC NEUTRAL, 15KV, APPROXIMATE DISTANCE SHOWN.
3. 2"C, 3 NO. 3/0. ROUTE BETWEEN TRANSFORMER AND POWER PEDESTAL. APPROXIMATE DISTANCE SHOWN.
4. PRIMARY PEDESTAL, 3ϕ, 4 POSITION, 200A, 15KV.
5. 7200:120/240V 1ϕ, 50KVA PAD MOUNT TRANSFORMER. SERVES LOT NUMBERS SHOWN.
6. 7200:120/240V 1ϕ, 37.5KVA PAD MOUNT TRANSFORMER. SERVES LOT NUMBERS SHOWN.
7. DO NOT PLUG INTO PRIMARY PEDESTAL. PUT ON PARKING STAND.

SHEET NOTES:

1. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
2. ALL UTILITY WORK BY UTILITIES, SEE SHEET NOTE 3, SHEET E1.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

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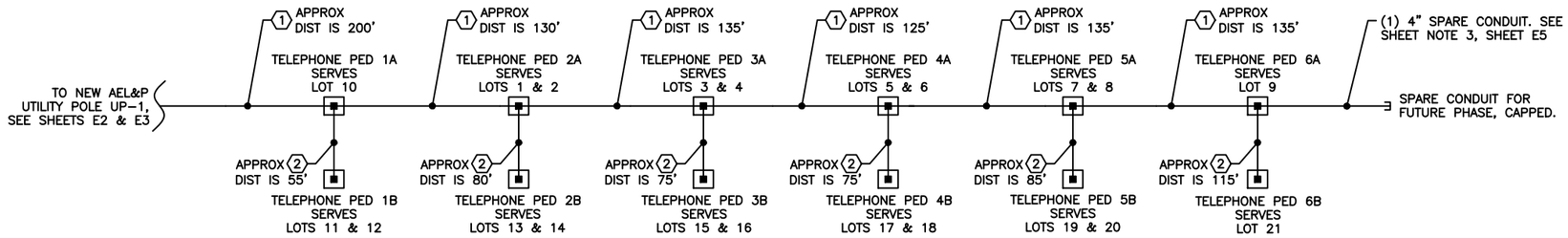
STATE OF ALASKA
49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SINGLE LINE DIAGRAM - POWER UTILITY

E8

SHEET:
08 of 15



1 RISER DIAGRAM - TELEPHONE
NO SCALE

NOTES:

1. 4"C, TELEPHONE CABLES
2. 2"C, TELEPHONE CABLES
3. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
4. ALL UTILITY WORK BY UTILITIES, SEE SHEET NOTE 3, SHEET E1.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

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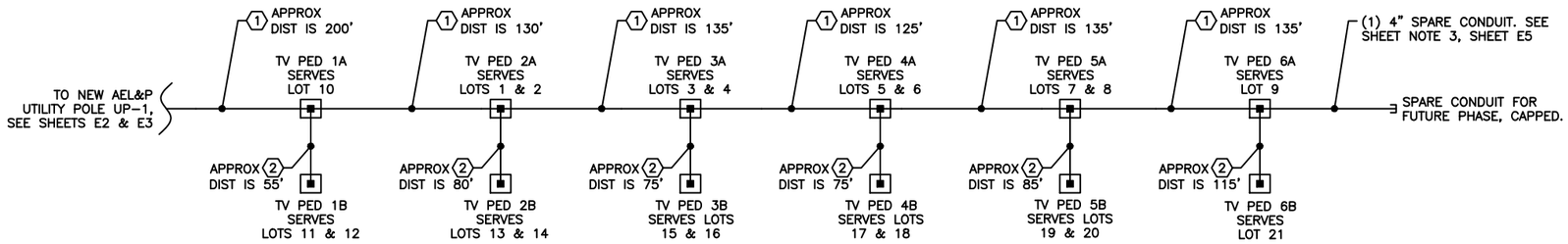
STATE OF ALASKA
49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
RISER DIAGRAM - TELEPHONE

E9

SHEET:
09 of 15



1 RISER DIAGRAM - TV
NO SCALE

NOTES:

1. 4"C, TV CABLES
2. 2"C, TV CABLES
3. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
4. ALL UTILITY WORK BY UTILITIES, SEE SHEET NOTE 3, SHEET E1.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

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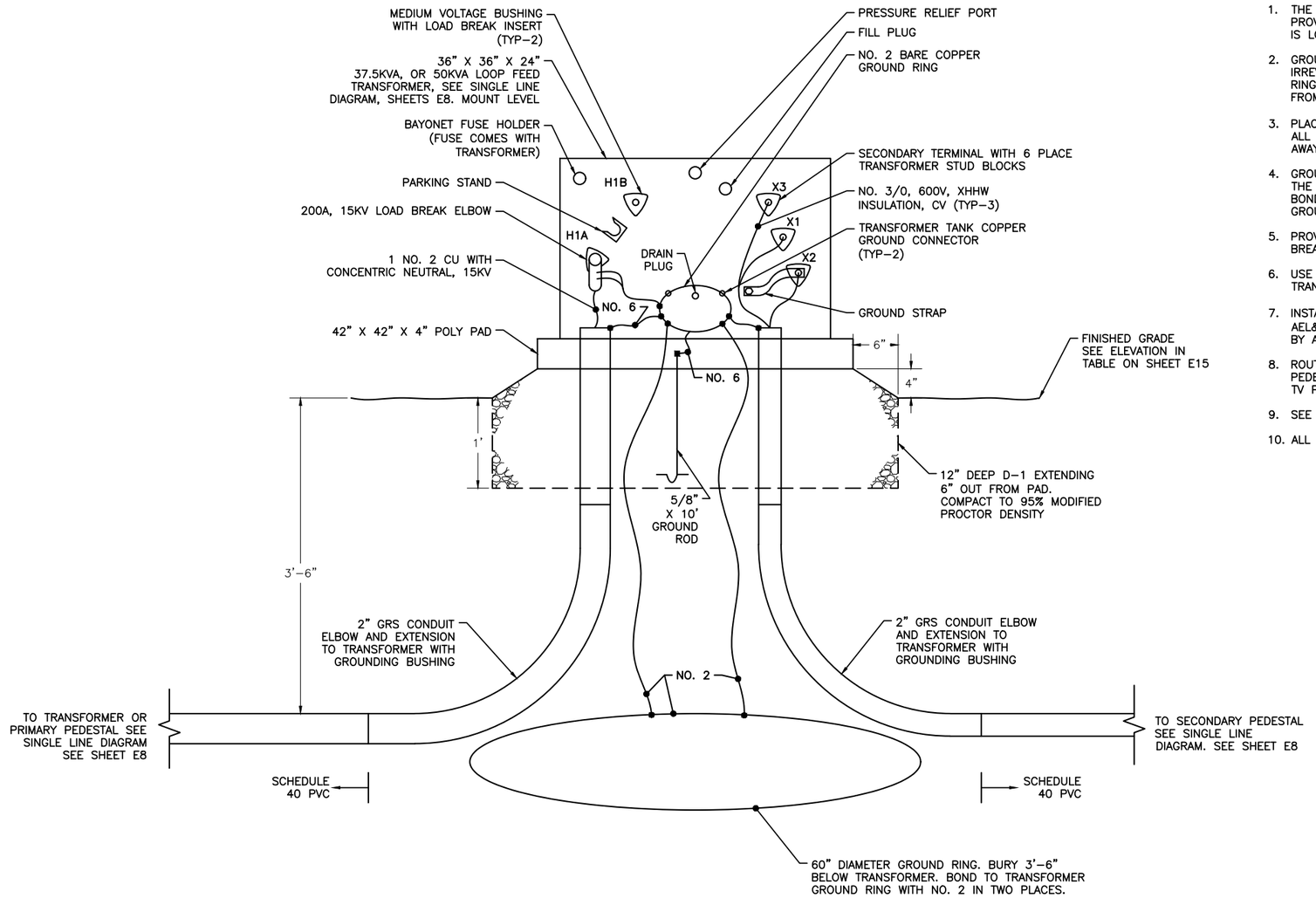
STATE OF ALASKA 49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
RISER DIAGRAM - TV

E10

SHEET:
10 of 15



① SINGLE PHASE TRANSFORMER MOUNTING DETAIL
NO SCALE

NOTES:

1. THE PRIMARY FEEDER FOR H1B IS NOT SHOWN FOR CLARITY. PROVIDE IN SAME MANNER AS FEEDER SHOWN WHEN TRANSFORMER IS LOOP FED.
2. GROUND RINGS SHALL BE NO. 2 BARE COPPER. USE BURNDY IRREVERSIBLE GROUNDING CONNECTORS TO CONNECT TO GROUND RING. FARGO CONNECTORS ARE ACCEPTABLE TO CONNECT GROUNDS FROM LOAD BREAK ELBOWS.
3. PLACE POLY PAD ON 12" OF D1 UNDER PAD AND OUT 6" AROUND ALL SIDES. COMPACT TO 95% MODIFIED PROCTOR DENSITY. SLOPE D1 AWAY FROM TRANSFORMER AT 66%.
4. GROUND THE LOAD BREAK ELBOWS, THE CONCENTRIC NEUTRAL ON THE PRIMARY, AND THE SECONDARY NEUTRAL TO THE GROUND RING. BOND THE GROUND RING TO A GROUND ROD AND A BURIED GROUND RING AS SHOWN.
5. PROVIDE SUFFICIENT SLACK IN PRIMARY CABLES TO REMOVE LOAD BREAK ELBOW AND SET IT IN PARKING STAND.
6. USE MATERIAL FROM AEL&P ONLY, THIS INCLUDES THE PAD, TRANSFORMER, ELBOWS, STUD BLOCKS, AND CONDUCTORS.
7. INSTALL PER AEL&P'S REQUIREMENTS. OBTAIN INSPECTION FROM AEL&P'S ENGINEER. MAKE CHANGES IN INSTALLATION AS DIRECTED BY AEL&P.
8. ROUTE A NO. 6 GROUND TO EACH ADJACENT TELEPHONE AND TV PEDESTAL FROM TRANSFORMER. STUB UP NEXT TO TELEPHONE OR TV PEDESTAL CONDUIT.
9. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
10. ALL UTILITY WORK BY UTILITIES, SEE SHEET NOTE 3, SHEET E1.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

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STATE OF ALASKA 49TH
Mark G. Morris
Feb 11, 2026
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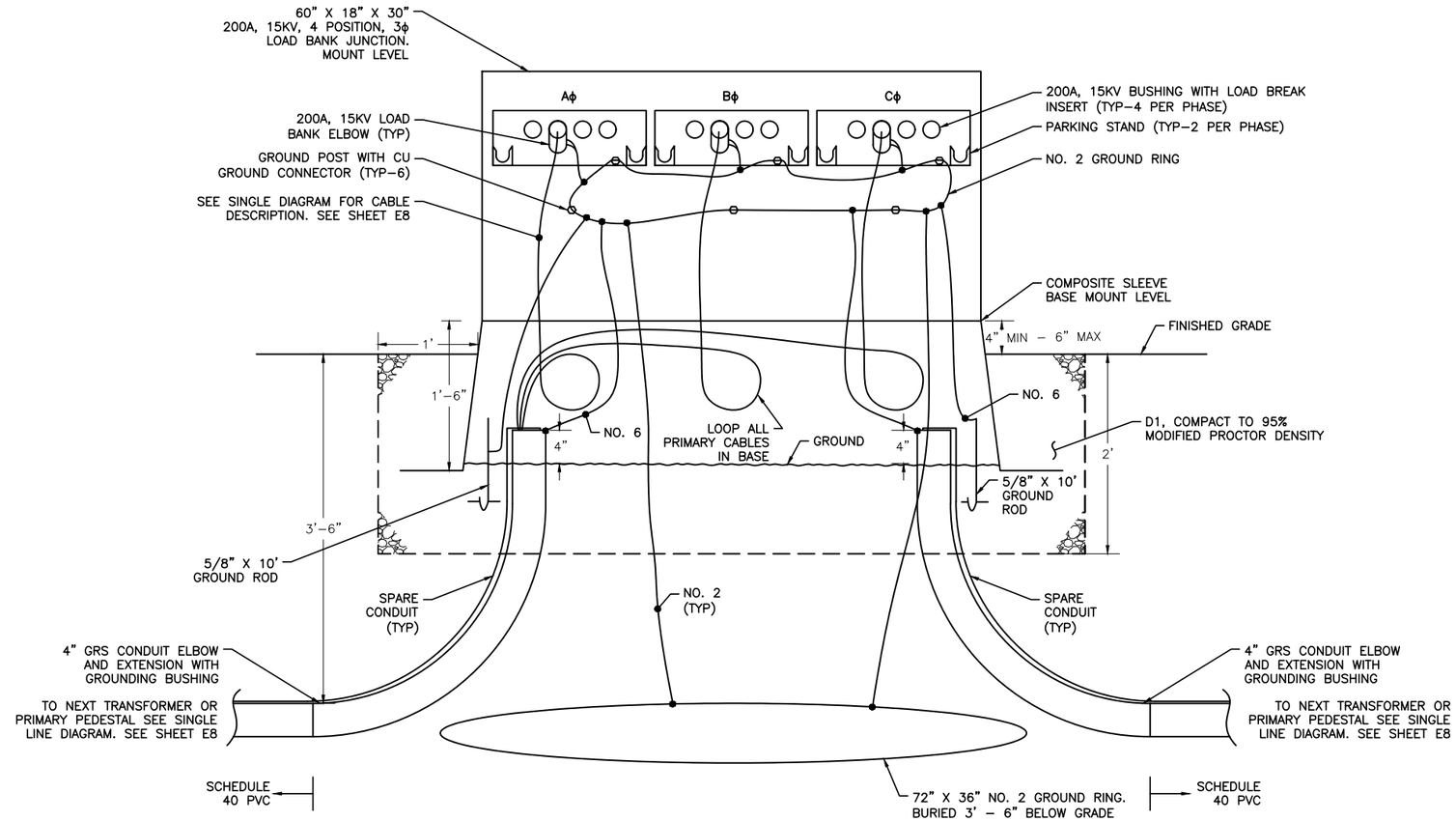
SHEET DESCRIPTION:
SINGLE PHASE TRANSFORMER MOUNTING DETAIL

E11

SHEET:
11 of 15



① PRIMARY PEDESTAL INSTALLATION DETAIL
NO SCALE

NOTES:

1. ONLY ONE FEEDER IS SHOWN FOR CLARITY. SEE SINGLE LINE DIAGRAM, FOR SIZE AND QUANTITY OF FEEDERS.
2. GROUND RINGS SHALL BE NO. 2 BARE COPPER. USE BURNDY IRREVERSIBLE GROUNDING CONNECTORS TO CONNECT TO GROUND RING. FARGO CONNECTORS ARE ACCEPTABLE TO CONNECT GROUNDS FROM LOAD BREAK ELBOWS.
3. PLACE BASE IN 24" DEEP D1 EXTENDING 12" ALL SIDES. COMPACT TO 95% MODIFIED PROCTOR DENSITY.
4. GROUND THE LOAD BREAK ELBOWS, ANY CONCENTRIC NEUTRAL ON THE PRIMARY, AND THE 600V NEUTRALS TO THE GROUND RING. BOND THE GROUND RING TO TWO GROUND RODS AND A BURIED GROUND RING AS SHOWN.
5. LOOP PRIMARY CABLES IN BASE.
6. USE MATERIAL FROM AEL&P ONLY, THIS INCLUDES LOAD BREAK JUNCTION, COMPOSITE SLEEVE BASE, LOAD BREAK ELBOWS, CONDUCTORS, CABLES, AND GROUND RODS.
7. INSTALL PER AEL&P'S REQUIREMENTS. OBTAIN INSPECTION FROM AEL&P'S ENGINEER. MAKE CHANGES IN INSTALLATION AS DIRECTED BY AEL&P.
8. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
9. ALL UTILITY WORK BY UTILITIES, SEE SHEET NOTE 3, SHEET E1.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

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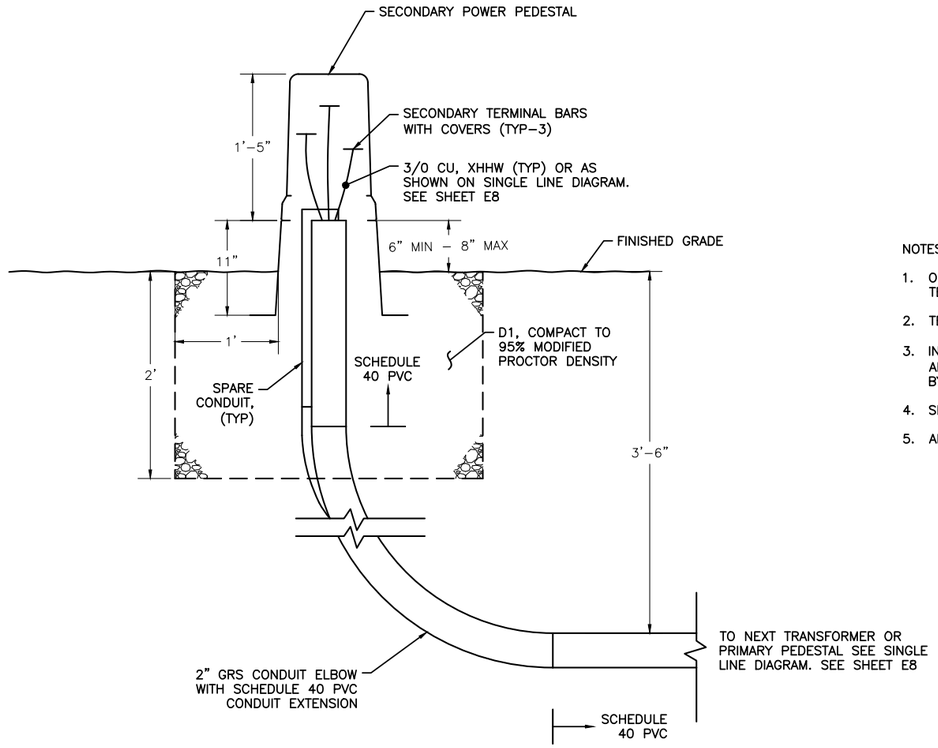
STATE OF ALASKA
49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
PRIMARY PEDESTAL
INSTALLATION DETAIL

E12

SHEET:
12 of 15



① SECONDARY POWER PEDESTAL INSTALLATION DETAIL
NO SCALE

NOTES:

1. OBTAIN ALL PARTS FROM AEL&P. THAT INCLUDES PEDESTAL, TERMINAL BARS WITH COVERS, AND CONDUCTORS.
2. TERMINATE EACH SECONDARY CONDUCTOR ON A TERMINAL BAR.
3. INSTALL PER AEL&P'S REQUIREMENTS. OBTAIN INSPECTION FROM AEL&P'S ENGINEER. MAKE CHANGES IN INSTALLATION AS DIRECTED BY AEL&P.
4. SEE SHEET E1 FOR GENERAL NOTES APPLICABLE TO THIS SHEET.
5. ALL UTILITY WORK BY UTILITIES, SEE SHEET NOTE 3, SHEET E1.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: JRW
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DATE: 2/11/2026
PROJECT #: 101-72

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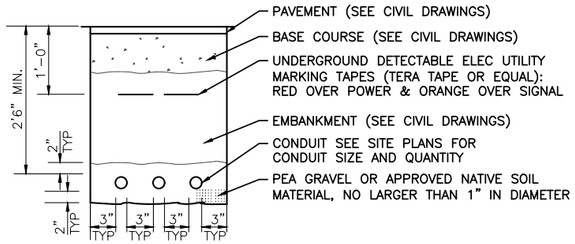
40 TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SECONDARY POWER PEDESTAL INSTALLATION DETAIL

E13

SHEET:
13 of 15



NOTES:

1. ALL DIMENSIONS ARE MINIMUM.
2. SEE CIVIL DRAWINGS FOR TYPICAL SECTIONS UNDER PAVED AREAS. PROVIDE BACKFILL (MATERIAL, COMPACTION, ETC.) PER THE CIVIL DRAWINGS. WHERE NOT UNDER PAVEMENT, PROVIDE D1 IN THE TOP 12" WITH SELECT BORROW BELOW.
3. THE LOCATION OF ALL EXISTING PIPING, CONDUIT, ETC MAY NOT BE WHERE SHOWN AND MAY NOT BE SHOWN. ALL LOCATIONS THAT ARE SHOWN ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED. OBTAIN UTILITY LOCATES PRIOR TO DIGGING. DIG WITH CAUTION. AVOID WATER, SEWER, DRAINAGE PIPES AND OTHER CONFLICTS.
4. MAINTAIN 12 INCHES MINIMUM SEPARATION (ALL DIRECTIONS) BETWEEN POWER AND OTHER, PIPES, ETC.
5. PROVIDE 36" MINIMUM BURY IN ROAD PRISM.
6. MODIFY CONDUIT BURIAL DEPTH WHERE SHOWN ON DRAWINGS AND AS REQUIRED TO AVOID ALL OBSTACLES. ROUTE BELOW OBSTACLES.
7. POWER UTILITY CONDUITS SHALL BE BURIED AT A MINIMUM OF 3'–6". BURY CONDUITS DEEPER WHERE REQUIRED TO AVOID OTHER PIPES AND STRUCTURES.

① TRENCH DETAIL
NO SCALE

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT
SET - rev1

DRAWN BY: JRW
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SHEET DESCRIPTION:
TRENCH DETAIL

E14

SHEET:
14 of 15

LIGHTING EQUIPMENT LOCATIONS ON SHEIX'W DEIYI STREET			
STATION	OFFSET	ELEVATION	DESCRIPTION
10+41.45	23.08'LT	75.29	TYPE 1A J–BOX JB–1
10+46.17	24.62'LT	75.42	LIGHT POLE L–1
11+48.78	23.08'LT	75.46	TYPE 1A J–BOX JB–2
11+54.73	24.65'LT	81.46	LIGHT POLE L–2
12+95.35	23.08'LT	97.88	TYPE 1A J–BOX JB–3
12+99.95	24.68'LT	98.39	LIGHT POLE L–3
14+49.98	23.08'LT	116.40	TYPE 1A J–BOX JB–4
14+54.95	24.78'LT	117.01	LIGHT POLE L–4
16+20.63	23.08'LT	132.92	TYPE 1A J–BOX JB–5
16+25.20	24.78'LT	133.00	LIGHT POLE L–5

UTILITY EQUIPMENT LOCATIONS ON SHEIX'W DEIYI STREET (FOR COORDINATION ONLY)			
STATION	OFFSET	ELEVATION	DESCRIPTION
10.42.64	112.72'RT	–	UTILITY POLE UP–1
10+86.35	29.50'RT	77.03	PRIMARY J–BOX PJB–1
10+95.24	27.35'RT	77.58	37.5KW POWER TRANSFORMER 1
10+98.26	28.29'RT	77.75	TELEPHONE PEDESTAL 1A
11+00.62	27.80'RT	77.87	TV PEDESTAL 1A
11+27.74	33.24'RT	79.52	SECONDARY POWER PEDESTAL 1A
11+29.71	33.22'RT	79.70	TELEPHONE PEDESTAL 1B
11+31.60	33.04'RT	79.82	TV PEDESTAL 1B
11+80.99	27.31'LT	84.12	50KW POWER TRANSFORMER 2
11+86.24	28.30'LT	84.79	TELEPHONE PEDESTAL 2A
11+89.81	27.60'LT	85.16	TV PEDESTAL 2A
11+90.80	28.10'RT	85.30	SECONDARY POWER PEDESTAL 2A
11+93.46	28.10'RT	85.64	TELEPHONE PEDESTAL 2B
11+95.97	27.96'RT	85.92	TV PEDESTAL 2B
12+89.43	27.90'LT	97.12	50KW POWER TRANSFORMER 3
12+93.32	28.68'LT	97.95	TELEPHONE PEDESTAL 3A
12+96.31	28.84'LT	98.00	TV PEDESTAL 3A
12+90.83	27.95'RT	97.32	SECONDARY POWER PEDESTAL 3A
12+93.46	27.97'RT	97.95	TELEPHONE PEDESTAL 3B
12+95.97	27.77'RT	97.93	TV PEDESTAL 3B
13+89.43	28.03'LT	109.14	50KW POWER TRANSFORMER 4
13+93.68	28.87'LT	109.67	TELEPHONE PEDESTAL 4A
13+96.96	28.20'LT	110.05	TV PEDESTAL 4A
13+90.76	27.76'RT	109.33	SECONDARY POWER PEDESTAL 4A
13+93.17	27.82'RT	109.60	TELEPHONE PEDESTAL 4B
13+95.47	27.65'RT	109.88	TV PEDESTAL 4B
15+06.98	27.85'LT	123.28	50KW POWER TRANSFORMER 5
15+11.29	28.61'LT	123.77	TELEPHONE PEDESTAL 5A
15+14.57	27.88'LT	124.17	TV PEDESTAL 5A
14+82.87	29.46'RT	120.36	SECONDARY POWER PEDESTAL 5A
14+85.25	29.25'RT	120.64	TELEPHONE PEDESTAL 5B
14+87.52	28.85'RT	120.93	TV PEDESTAL 5B
16+13.26	27.23'LT	132.57	50KW POWER TRANSFORMER 6
16+17.17	27.96'LT	132.77	TELEPHONE PEDESTAL 6A
16+20.14	27.24'LT	132.88	TV PEDESTAL 6A
15+81.72	46.06'RT	130.91	SECONDARY POWER PEDESTAL 6A
15+84.13	47.11'RT	131.07	TELEPHONE PEDESTAL 6B
15+86.52	47.92'RT	131.18	TV PEDESTAL 6B
16+43.40	28.31'LT	133.50	PRIMARY J–BOX PJB–2

NOTES:

1. ALL STATION AND OFFSETS ARE FROM SHEIX'W DEIYI STREET.
2. LOCATE EQUIPMENT WHERE SHOWN. LOCATIONS ARE PROVIDED TO THE CENTER OF THE EQUIPMENT. ADJUST CONDUIT FEEDING EQUIPMENT SO IT ENTERS EQUIPMENT AT THE CORRECT LOCATIONS.
3. ELEVATIONS PROVIDED ARE THE ELEVATION TO FINISHED GRADE AT THE LOCATION GIVEN. INSTALL EQUIPMENT PER MOUNTING DETAILS.

REVISIONS:

SEET KANAX DUTEEN
UTILITY DESIGN

STATUS:
PERMIT SET - rev1

DRAWN BY: JRW
CHECKED BY: MGM
DATE: 2/11/2026
PROJECT #: 101-72

MORRIS ENGINEERING GROUP INC.
2375 JORDAN AVE. #7
JUNEAU, ALASKA 99801
PH: 907.789.3350
AECL 1010
WWW.MORRISENGINEERINGGROUP.COM

STATE OF ALASKA
49TH
Mark G. Morris
Feb 11, 2026
No. EE 8613
REGISTERED PROFESSIONAL ENGINEER

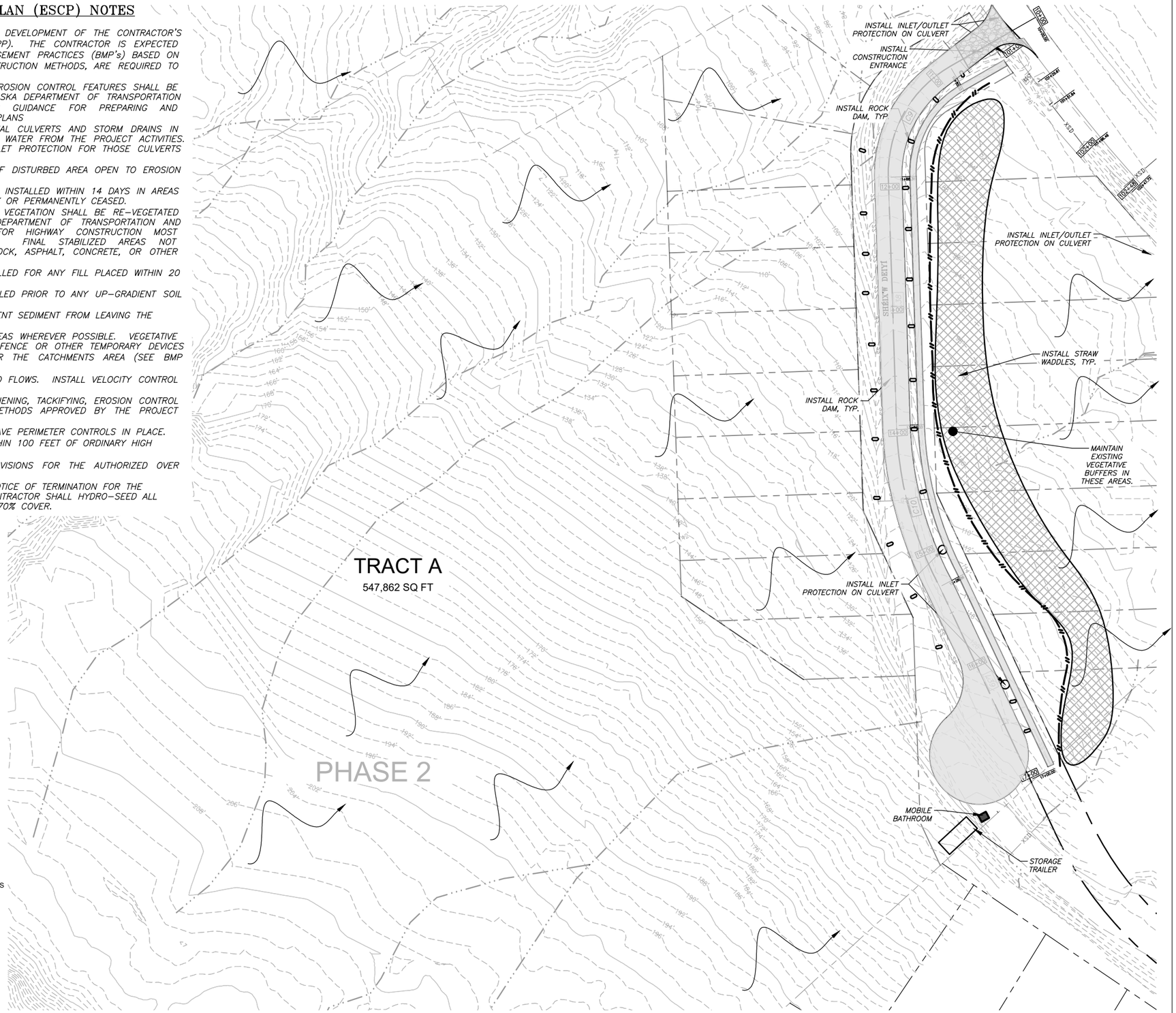
SHEET DESCRIPTION:
STATION AND OFFSET TABLES

E15

SHEET:
15 of 15

EROSION AND SEDIMENT CONTROL PLAN (ESCP) NOTES

1. THE ESCP IS A GENERAL PLAN FOR GUIDING THE DEVELOPMENT OF THE CONTRACTOR'S STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR IS EXPECTED TO PROVIDE ADDITIONAL DETAILS AND BEST MANAGEMENT PRACTICES (BMP's) BASED ON THE CONTRACTOR'S ACTUAL SCHEDULE AND CONSTRUCTION METHODS, ARE REQUIRED TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT.
2. SEDIMENT CONTROL MEASURES AND TEMPORARY EROSION CONTROL FEATURES SHALL BE BASED ON THE BMPS AS CONTAINED IN THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES MANUAL "CONTRACTOR GUIDANCE FOR PREPARING AND EXECUTING STORM WATER POLLUTION PREVENTION PLANS
3. THE CONTRACTOR SHALL IDENTIFY ALL OPERATIONAL CULVERTS AND STORM DRAINS IN THE PROJECT THAT WILL BE IMPACTED BY STORM WATER FROM THE PROJECT ACTIVITIES. THE CONTRACTOR SHALL PROVIDE INLET AND OUTLET PROTECTION FOR THOSE CULVERTS AND STORM DRAINS.
4. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBED AREA OPEN TO EROSION AT ANY ONE TIME.
5. EROSION AND SEDIMENT CONTROL BMPS SHALL BE INSTALLED WITHIN 14 DAYS IN AREAS WHERE EARTHWORK DISTURBANCE HAS TEMPORARILY OR PERMANENTLY CEASED.
6. ALL DISTURBED GROUND CAPABLE OF SUPPORTING VEGETATION SHALL BE RE-VEGETATED ACCORDING TO SECTION 618 OF THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION MOST CURRENT ADDITION FOR FINAL STABILIZATION. FINAL STABILIZED AREAS NOT RE-VEGETATED SHALL BE 100% COVERED BY ROCK, ASPHALT, CONCRETE, OR OTHER PERMANENT NON-ERODABLE MATERIAL.
7. TEMPORARY PERIMETER CONTROLS SHALL BE INSTALLED FOR ANY FILL PLACED WITHIN 20 FEET OF ORDINARY HIGH WATER.
8. TEMPORARY SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO ANY UP-GRADIENT SOIL DISTURBANCE OCCURS.
9. PROVIDE SEDIMENT CONTROLS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE.
10. RETAIN A VEGETATIVE BUFFER STRIP IN UPLAND AREAS WHEREVER POSSIBLE. VEGETATIVE BUFFER STRIPS MAY BE USED IN LIEU OF SILT FENCE OR OTHER TEMPORARY DEVICES PROVIDED THEY ARE OF SUFFICIENT WIDTH FOR THE CATCHMENTS AREA (SEE BMP DETAILS).
11. AVOID CONDITIONS WHICH PROMOTE CONCENTRATED FLOWS. INSTALL VELOCITY CONTROL BMPS WHEN CONCENTRATED FLOWS OCCUR.
12. SLOPE PROTECTION SHALL INCLUDE SLOPE ROUGHENING, TACKIFYING, EROSION CONTROL BLANKETS, SEEDING, ROCK LINING, OR OTHER METHODS APPROVED BY THE PROJECT ENGINEER.
13. ALL STOCKPILES OF ERODIBLE MATERIALS SHALL HAVE PERIMETER CONTROLS IN PLACE.
14. ERODIBLE MATERIALS MAY NOT BE STOCKPILED WITHIN 100 FEET OF ORDINARY HIGH WATER.
15. THE CONTRACTOR'S SWPPP SHALL INCLUDE PROVISIONS FOR THE AUTHORIZED OVER BURDEN PLACEMENT AREAS.
16. PRIOR TO COMPLETION OF PROJECT AND FILING NOTICE OF TERMINATION FOR THE APDES CONSTRUCTION GENERAL PERMIT THE CONTRACTOR SHALL HYDRO-SEED ALL ERODIBLE SLOPES AND ESTABLISH A MINIMUM OF 70% COVER.



REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX'W DEIYÍ STREET DESIGN

STATUS: PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

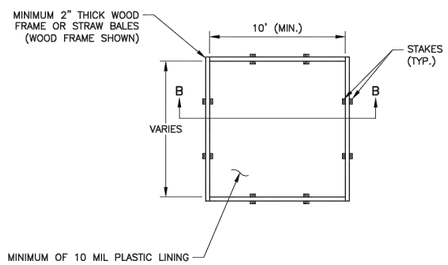
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION: ESCP PLAN AND NOTES

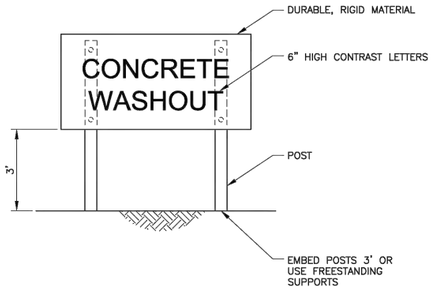
P1

SHEET: 12 of 22

BMP 6.00 – CONCRETE WASHOUT



PLAN



WASHOUT SIGN
[NOT TO SCALE]

CONCRETE WASHOUT GENERAL NOTES:

MATERIALS

PRE–FABRICATED CONTAINERS: MADE OF STURDY MATERIALS THAT ARE WATER TIGHT.

FABRICATED ON–SITE CONTAINMENT:

1. BARRIER/SIDEWALLS: MAKE SIDEWALLS OF AN ABOVE–GRADE CONTAINMENT AREA FROM EARTHEN BERMS, BARRIER WALLS, WOOD PLANKS, OR OTHER MATERIALS THAT WILL BE STRUCTURALLY SOUND WHEN FILLED WITH WASTE MATERIALS.
2. LINER: IMPERMEABLE PLASTIC SHEETING OF AT LEAST 10 MIL THICKNESS, AND FREE OF HOLES, TEARS, AND OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
3. ANCHORS: SECURE THE LINER FOR ABOVE–GRADE CONTAINMENT AREAS AND SIDEWALL MATERIALS OTHER THAN BERMS WITH ANCHORS. USE SANDBAGS, 6–INCH WIRE STAPLES, AND WOOD OR METAL STAKES AS ANCHORS, BUT NOT LIMITED TO ONLY THEM.

SIGNS: DURABLE, RIGID MATERIAL WITH 6–INCH HIGH CONTRASTING LETTERS, PLACED AT A HEIGHT OF AT LEAST 3 FEET ABOVE GROUND LEVEL.

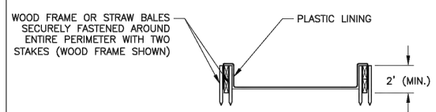
RAIN COVER: SECURE, NON–COLLAPSING, NON–WATER COLLECTING RAIN COVER, REQUIRED PRIOR TO PREDICTED WET WEATHER TO PREVENT ACCUMULATION AND OVERFLOW OF PRECIPITATION.

INSTALLATION

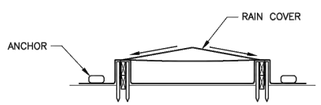
1. INSTALL SIGNS WITHIN 30 FEET OF THE WASHOUT.
2. IF THE WASHOUT IS LOCATED ON UNDEVELOPED PROPERTY OR OFF–PAVEMENT, PROVIDE A STABILIZED CONSTRUCTION EXIT.
3. PLACE CONCRETE WASHOUT CONTAINMENT A MINIMUM OF 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATERBODIES, OR PROVIDE SECONDARY CONTAINMENT FOR THE WASHOUT.
4. PROVIDE SUFFICIENT CAPACITY TO HANDLE THE EXPECTED VOLUME OF SOLIDS AND WASH WATER AT 50% MAX CAPACITY AND ALLOW 12 INCHES MINIMUM OF FREEBOARD.
5. PRE–FABRICATED WASHOUT CONTAINERS ARE USUALLY DELIVERED ASSEMBLED. IF ASSEMBLY IS REQUIRED, FOLLOW MANUFACTURER'S INSTRUCTIONS.
6. SELF–INSTALLED CONTAINMENT:
   a. ABOVE–GRADE WASHOUT: CONSTRUCT THE SIDEWALLS TO THE DIMENSIONS SHOWN ON THE DRAWINGS. IF NOT USING AN EARTHEN BERM FOR THIS PURPOSE, ENSURE THAT THE SIDEWALL MATERIAL IS SECURE AND EACH UNIT IS BUTTED TIGHTLY END TO END. LINE THE ENTIRE AREA WITH THE LINING MATERIAL, BRINGING THE SHEETING UP OVER THE SIDEWALLS AND SECURING THE ENDS WITH SANDBAGS, STAPLES OR OTHER APPROPRIATE ANCHORS.
   b. BELOW–GRADE WASHOUT: EXCAVATE A FLAT, SUBSURFACE PIT TO THE DESIRED SIZE AND CAPACITY FOR THE CONTAINMENT AREA. THE RESULTING SIDEWALL SHOULD NOT EXCEED 3:1 SLOPES. PREVENT DAMAGE TO THE LINER BY KEEPING THE BASE OF THE PIT FREE OF ROCKS AND DEBRIS. USE THE EXCAVATED MATERIAL TO CREATE A BERM ALONG THREE SIDES OF THE PIT, LEAVING THE SIDE PROVIDING ACCESS RELATIVELY FLAT. IT IS RECOMMENDED THAT THE BERM BE AT LEAST 1–FOOT HIGHER THAN EXISTING GROUND. LINE THE ENTIRE AREA WITH THE LINING MATERIAL, BRINGING THE SHEETING UP OVER THE SIDEWALLS AND BERM, AND SECURING THE ENDS WITH SANDBAGS OR OTHER APPROPRIATE ANCHORS.

INSPECTION

1. INSPECT AND VERIFY THAT CONCRETE WASHOUT BMPS ARE IN PLACE PRIOR TO THE COMMENCEMENT OF CONCRETE WORK.
2. DETERMINE IF THE CONCRETE WASHOUT IS FILLED TO 50 PERCENT CAPACITY.
3. FOR SELF–INSTALLED CONTAINMENT:
   a. INSPECT THE PLASTIC LINER TO ENSURE IT IS SECURELY ANCHORED AND INTACT.
   b. INSPECT THE SIDEWALLS FOR LEAKS. ENSURE THE CONSTRUCTION DOESN'T DAMAGE THE SIDEWALLS.
4. FOR PRE–FABRICATED CONTAINMENT, INSPECT THE UNIT FOR LEAKS AND POTENTIAL DAMAGE.
5. CHECK TO ENSURE THAT EACH WASHOUT SIGN IS STILL SECURE AND VISIBLE.
6. IF THERE IS EVIDENCE THAT WASHOUTS ARE OCCURRING IN LOCATIONS OTHER THAN THE DESIGNATED WASHOUT: IMPROVE EXISTING SIGNAGE, INSTALL ADDITIONAL SIGNAGE, INCREASE COMMUNICATION WITH CONCRETE TRUCK DRIVERS, AND PROVIDE CONCRETE TRUCK DRIVERS WITH MAPS OF WASHOUT LOCATIONS WITH RESPECT TO POUR LOCATIONS.



SECTION B–B



MAINTENANCE

1. CLEAN EXISTING WASHOUTS BEFORE THE WASHOUT IS 50 PERCENT FULL. SOLIDIFY WITH BAGGED GROUT, VACUUM AND DISPOSE OF LIQUIDS IN AN APPROVED MANNER, OR ALLOW FOR EVAPORATION (CHECK WITH THE LOCAL SANITARY SEWER AUTHORITY TO DETERMINE IF THERE ARE SPECIAL DISPOSAL REQUIREMENTS FOR CONCRETE WASH WATER).
2. IF NECESSARY, PROVIDE AN ALTERNATE WASHOUT DURING EXISTING WASHOUT CLEANING.
3. RELINE SELF–INSTALLED CONTAINERS AFTER EACH CLEANING, BECAUSE EQUIPMENT CAN DAMAGE THE LINER. BEFORE RELINING, INSPECT THE CONTAINMENT STRUCTURE FOR SIGNS OF WEAKENING OR DAMAGE AND MAKE ANY NECESSARY REPAIRS. THEN LINE THE STRUCTURE WITH NEW PLASTIC SHEETING, CHECKING THAT IT IS FREE OF HOLES, TEARS, AND OTHER DAMAGE.
4. REPAIR DAMAGED WASHOUTS BEFORE THE NEXT CONCRETE POUR. IF NECESSARY, PROVIDE NEW WASHOUTS UNTIL THE EXISTING WASHOUTS ARE OPERATIONAL.
5. CONTAIN ANY SPILL OR DISCHARGE OF CONCRETE WASTE MATERIALS.
6. REPLACE OR INSTALL NEW SIGNAGE AS NEEDED.

REMOVAL

1. AN OPERATIONAL CONCRETE WASHOUT SHOULD REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT (OR PHASE OF THE PROJECT) IS POURED. WHEN THE CONCRETE WASHOUT IS NO LONGER NEEDED, THE LIQUID MUST BE EVAPORATED OR VACUUMED FOR DISPOSAL AND THE HARDENED SOLIDS MUST BE BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF. DISPOSAL LOCATION TO BE APPROVED BY ENGINEER.
2. REMOVE FROM THE SITE PRE–FABRICATED WASHOUTS AND MATERIALS USED TO CONSTRUCT ABOVE–GRADE CONTAINMENT AREA AND PROPERLY DISPOSE OF THEM.
3. BACKFILL AND STABILIZE HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE CREATION OR REMOVAL OF THE WASHOUT WITH AN APPROVED BMP.

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̱'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

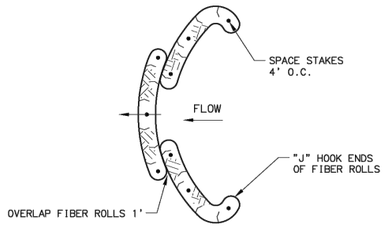
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ESCP DETAILS

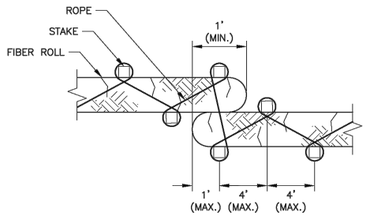
P2

SHEET:
13 of 22

BMP 10.00 – FIBER ROLLS



PLAN



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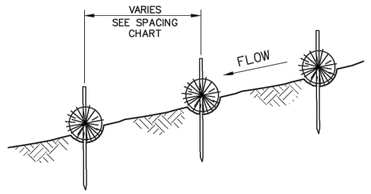
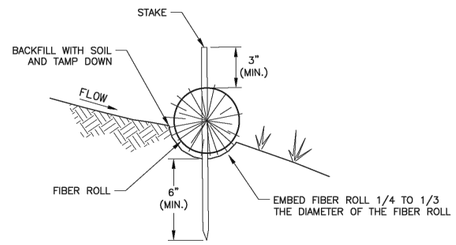
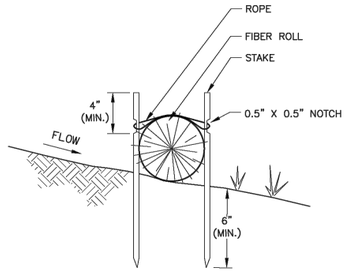




SECTION



SECTION

TYPICAL SPACING CHART	
SLOPE	SPACING (FEET)
1:1	10
2:1	20
3:1	30

TRENCHED INSTALLATION
NOT TO SCALE

TRENCHED INSTALLATION NOTES:
1. DIG TRENCHES AND PLACE FIBER ROLLS IN THE TRENCHES.
2. CURVE BACK THE UPSLOPE END OF THE FIBER ROLL IN A "J" HOOK.
3. SPREAD EXCAVATED MATERIAL EVENLY ALONG THE UPHILL SLOPE AND COMPACT USING HAND TAMPING OR OTHER METHODS.
4. STAKE THE ROLL EVERY 4 FEET AND WITHIN 1–FOOT OF THE ENDS. LEAVE 3 INCHES OF THE STAKE ABOVE THE ROLL.
5. DRIVE STAKES THROUGH THE MIDDLE OF THE FIBER ROLL.
6. IF REQUIRED, PILOT HOLES FOR THE STAKES MAY BE CREATED BY DRIVING A STRAIGHT BAR THROUGH THE ROLL.

ROPE INSTALLATION
NOT TO SCALE

SLOPE INSTALLATION
NOT TO SCALE

SLOPE INSTALLATION NOTES:
1. INSTALL ON A SLOPE TO SHORTEN THE SLOPE LENGTH.
2. START INSTALLATION DOWNSLOPE.
3. SPACE ROLLS ACCORDING TO THE SPACING CHART AND DECREASE SPACING ON MORE ERODIBLE SOILS AND INCREASE SPACING ON ROCKY SOILS.

FIBER ROLL GENERAL NOTES:

MATERIALS

FIBER ROLLS: THE NETTING MAY BE UV–DEGRADABLE POLYPROPYLENE, BIODEGRADABLE BURLAP, JUTE OR COIR. THE FILLINGS MAY BE STRAW, FLAX, RICE, OR COCONUT–FIBER. MINIMUM DIAMETER OF 6 INCHES.

STAKES: 1–INCH BY 1–INCH WOODEN STAKES 24 INCHES LONG (18 INCHES IF SOILS ARE ROCKY) OR ⅜–INCH REBAR WITH SAFETY CAPS OR ¾–INCH TO 1 ½–INCH DIAMETER LIVE WILLOW CUTTINGS. IF USING LIVE WILLOW CUTTINGS, DO NOT INSTALL ROPE.

INSTALLATION
1. PLACE FIBER ROLLS PERPENDICULAR TO FLOW AND PARALLEL TO THE SLOPE CONTOUR.
2. AT THE END OF THE ROLL, TURN THE END UPSLOPE TO PREVENT RUN–OFF FROM GOING AROUND THE ROLL END.

INSPECTION
1. ENSURE THAT THE ROLLS ARE IN CONTACT WITH THE SOIL AND THOROUGHLY ENTRENCHED.
2. LOOK FOR SCOURING UNDERNEATH THE ROLLS.
3. LOOK FOR SPLIT, TORN, UNRAVELING, OR SLUMPING FIBER ROLLS.
4. ENSURE EQUIPMENT HAS NOT DRIVEN OVER THE INSTALLED FIBER ROLLS.

MAINTENANCE
1. REPLACE DAMAGED SECTIONS OF FIBER ROLL.
2. REMOVE ACCUMULATED SEDIMENT UPSLOPE OF THE ROLL BEFORE IT REACHES ONE–HALF THE DISTANCE BETWEEN THE TOP OF THE FIBER ROLL AND THE GROUND SURFACE. WHEN PROTECTING A WATER BODY OR STORM DRAIN INLET, REMOVE ACCUMULATED SEDIMENT UPSLPE OF THE ROLL WHEN IT REACHES ONE–THIRD OF THE DISTANCE BETWEEN THE TOP OF THE FIEBER ROLL AND THE GROUND SURFACE.

REMOVAL
1. REMOVE FIBER ROLLS WHEN THE AREA IS STABILIZED OR WHEN THEY ARE NO LONGER NECESSARY.
2. COLLECT AND DISPOSE OF THE ACCUMULATED SEDIMENT.
3. REMOVE AND DISPOSE OF FIBER ROLLS.
4. FILL THE TRENCHES AND STAKE HOLES TO BLEND WITH THE ADJACENT GROUND AND REVEGETATE AS NECESSARY.

RETENTION
1. LEAVE FIBER ROLLS IN PLACE WHEN THE AREA IS STABILIZED OR WHEN THEY ARE NOT NECESSARY.
2. COLLECT AND DISPOSE OF THE ACCUMULATED SEDIMENT.
3. REMOVE AND DISPOSE OF THE NETTING, STAKES, AND ROPE.

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

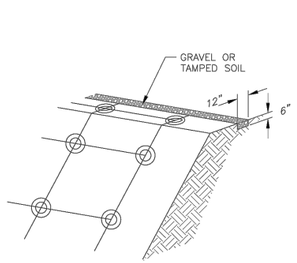
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ESCP DETAILS

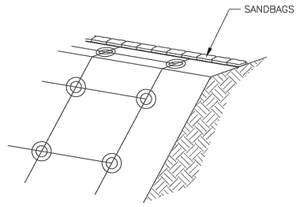
P3

SHEET:
14 of 22

BMP 12.00 – PLASTIC COVERING



TRENCHED DETAIL



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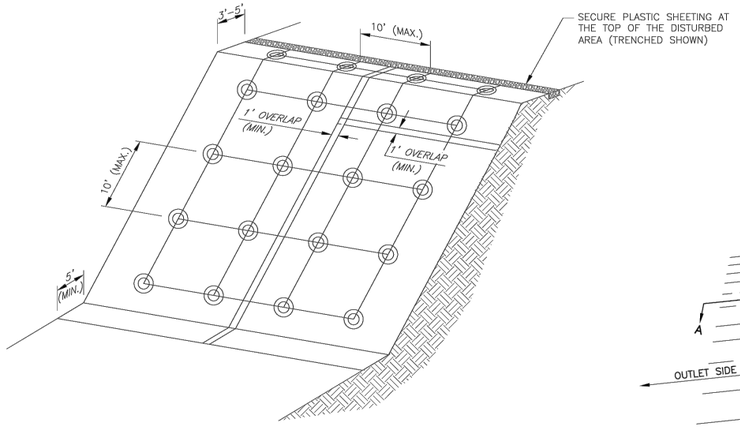


PERSPECTIVE

PLASTIC COVERING NOTES:

MATERIALS

PLASTIC COVERING: PLASTIC COVERING SHALL MEET THE REQUIREMENTS OF ASTM D 4397 FOR POLYETHYLENE SHEETING HAVING A MINIMUM THICKNESS OF 6 MIL.

FASTENERS OR WEIGHTS: FASTENERS OR WEIGHTING OBJECTS, SUCH AS SANDBAGS, TIRES, OR OTHER SIMILAR MATERIALS.

INSTALLATION

1. INSTALL PLASTIC PARALLEL WITH THE SLOPE, NOT PERPENDICULAR. PLASTIC MAY BE INSTALLED PERPENDICULAR TO A SLOPE IF THE SLOPE LENGTH IS LESS THAN 10 FEET. OVERLAP UPHILL SHEET OVER DOWNHILL SHEET A MINIMUM OF 1–FOOT.
2. SECURE THE PLASTIC SHEETING AT THE TOP OF THE SLOPE BY KEYING INTO A TRENCH OR WEIGHT WITH A CONTINUOUS LINE OF SANDBAGS SO THAT NO WATER CAN FLOW UNDERNEATH.
3. INSTALL WEIGHTS ON ROPES OR FASTENERS IN A 10–FOOT MAXIMUM GRID, TO SECURE THE PLASTIC TIGHTLY AGAINST THE SOIL.
4. INSPECT WEIGHTS TO MAKE SURE THEY ARE STILL IN PLACE, REPLACE AS NEEDED OR ADD ADDITIONAL WEIGHT IF THERE IS NOT A SUFFICIENT AMOUNT ON THE SLOPE.
5. TAPE, FASTEN, OR WEIGHT SEAMS ALONG THEIR ENTIRE LENGTH WITH A MINIMUM OF 1–FOOT OF OVERLAP AT ALL SEAMS.
6. SECURE EDGES TO PREVENT WATER FROM ERODING GROUND UNDERNEATH AND WIND FROM LIFTING THE COVER.

INSPECTION

1. INSPECT SHEETING AFTER INSTALLATION AND ACCORDING TO ESTABLISHED SCHEDULES.
2. CHECK FOR EROSION, UNDERMINING, ANCHORAGE (KEYING AND EMBEDDING) FAILURE, TORN SHEETS, AND DETERIORATION.

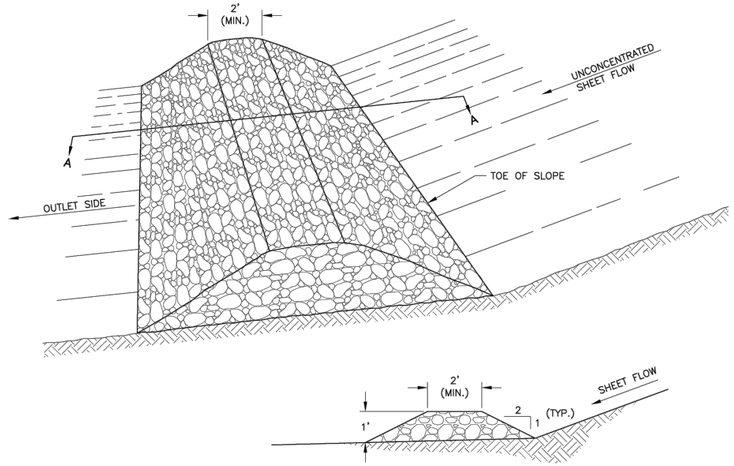
MAINTENANCE

1. REPAIR FAILURES AS SOON AS PRACTICABLE.
2. IF WASHOUT OR BREAKAGES OCCUR, REPAIR DAMAGE TO THE SLOPE AND REINSTALL THE MATERIAL AS SOON AS PRACTICABLE.

REMOVAL

1. REMOVE PLASTIC SHEETING AND WEIGHTS PRIOR TO STABILIZING THE AREA OR WHEN CONSTRUCTION ACTIVITY IS COMPLETED.
2. AFTER REMOVAL, FILL TRENCHES TO BLEND WITH THE ADJACENT GROUND AND REVEGETATE, AS NECESSARY.

BMP 16.00 – ROCK FILTER BERM



SECTION A–A

NOT TO SCALE

ROCK FILTER BERM NOTES:

MATERIALS

ROCK: WELL GRADED 3–INCH MINUS THAT WILL NOT RELEASE SEDIMENT AND HAS LESS THAN 5 PERCENT PASSING THE #200 SIEVE.

INSTALLATION

1. PLACE THE ROCK BERM AS SHOWN ON THE PLANS WITHIN 24 HOURS AFTER GRUBBING.

INSPECTION

1. OBSERVE FOR BERM CONTINUITY INCLUDING COLLAPSE, DAMAGE, COMPROMISED INTEGRITY, OR OTHER FUNCTIONAL INADEQUACIES.
2. LOOK FOR EVIDENCE OF SEDIMENT FLOW OR EROSION ON THE DOWNHILL EDGE OF THE BERM.
3. NOTE DEPTH OF SEDIMENT BEHIND BERM TO SEE IF SEDIMENT IS CLOSE TO ONE–HALF THE BERM HEIGHT.
4. LOOK TO SEE IF THE BERM IS FILTERING OR WHETHER IT HAS BECOME CLOGGED OR OTHERWISE NON–FUNCTIONING.

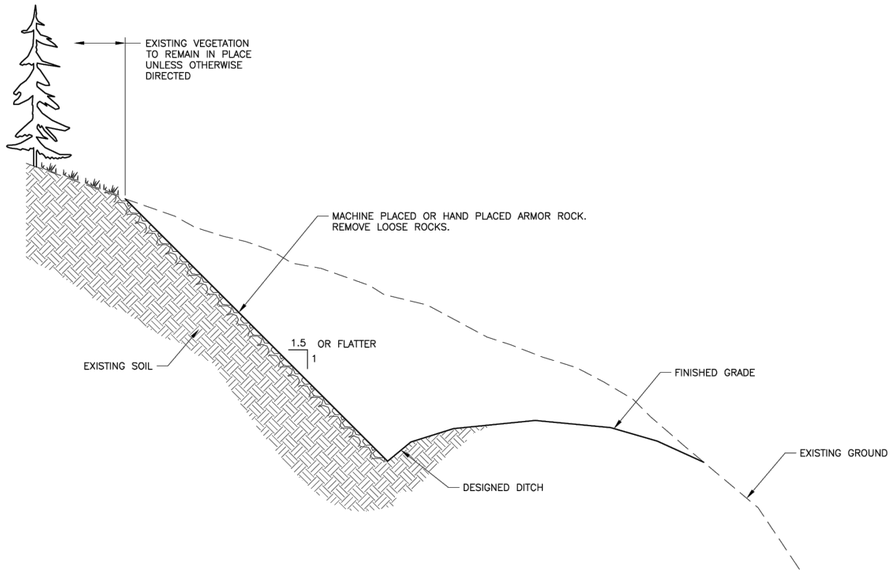
MAINTENANCE

1. REPAIR OR RESTORE ANY BERM DISCONTINUITIES, DAMAGE, OR POINTS OF FAILURE.
2. REMOVE ACCUMULATED SEDIMENT BEFORE IT REACHES ONE–HALF OF THE BERM HEIGHT OR ONE–THIRD OF THE AVAILABLE STORAGE IF PROTECTING A WATER BODY OR STORM DRAIN INLET.

REMOVAL

1. INCORPORATE THE ROCK BERM INTO THE SLOPE, UNLESS DIRECTED OTHERWISE. STABILIZE BARE GROUND AND THE FILL SLOPE.

BMP 17.00 – ROCK SLOPE ARMOR



ROCK SLOPE ARMOR NOTES:

MATERIALS

ROCK: COBBLE, GRAVEL, CRUSHED GRAVEL, CRUSHED ROCK, OR ANY COMBINATION OF THESE, MEETING SPECIFICATIONS AT 610–2.01 (DITCH LINING), 611–2.01 (RIPRAP), OR 703–2.10 (POROUS BACKFILL). USE ANGULAR ROCK ON SLOPES STEEPER THAN 2:1.

INSTALLATION

1. PREPARE THE SLOPE AS DESCRIBED IN THE CONTRACT OR AS DIRECTED BY THE ENGINEER.
2. MINIMIZE CONCENTRATED RUN–ON FROM CROSS–GRADIENT AND UP–GRADIENT SOURCES BY SITE GRADING AND/OR DIRECTING OR DIVERTING RUN–ON OR RUN–OFF AWAY FROM THE SLOPE FACE.
3. IF SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER, INSTALL THE FILTER FABRIC OR FILTER LAYER. AFTER CLEARING DEBRIS FROM SLOPE INSTALL FILTER FABRIC ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. INSTALL THE ROCK STARTING AT THE BOTTOM OF THE SLOPE AND PROCEEDING IN HORIZONTAL LIFTS UPWARDS.
5. PLACE STONES TO THE THICKNESS, HEIGHT, AND LENGTH SHOWN ON THE PLANS. DUMP SMALL ROCKS AND SPREAD BY BULLDOZER OR OTHER SUITABLE EQUIPMENT. DURING SPREADING, DO NOT CRACK THE ROCK.

INSPECTION

1. INSPECT FOR DAMAGE TO THE ROCK ARMOR, INCLUDING DISPLACED STONES, SLUMPING, AND EROSION AT EDGES, ESPECIALLY DOWNSLOPE.

MAINTENANCE

1. REPAIR DAMAGED ROCK ARMOR SLOPE OR EDGES AS SOON AS PRACTICABLE AND BEFORE FURTHER DAMAGE CAN OCCUR.

REVISIONS:

SEET KANAX DUTEEN
SUBDIVISION
SHÉIX̱'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

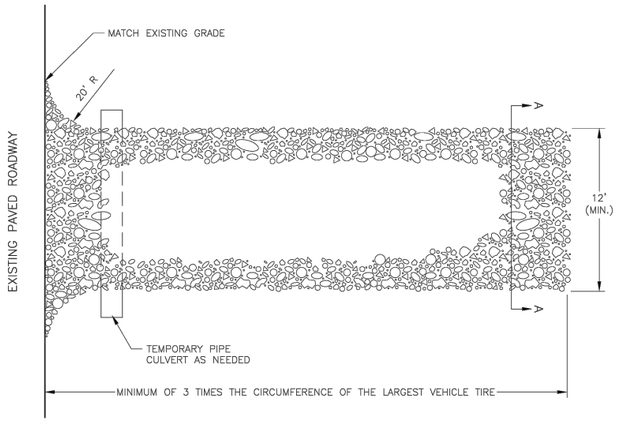
SHEET DESCRIPTION:
ESCP DETAILS

P4

SHEET:
15 of 22

BMP 23.00 – STABILIZED ROCK CONSTRUCTION EXIT

SECTION A–A



PLAN

STABILIZED CONSTRUCTION EXIT GENERAL NOTES:

INSTALLATION

1. INSTALL STABILIZED CONSTRUCTION EXIT PRIOR TO EARTH WORK.
2. CLEAR THE EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER MATERIAL.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP, VEGETATIVE SEDIMENT FILTER OR OTHER PROTECTED OUTLET.
4. EXCAVATE AND GRADE THE AREA FOR ROCK PLACEMENT.
5. INSTALL SIGNS, FENCING OR BARRICADES TO CHANNEL OUTGOING TRAFFIC TO THE STABILIZED CONSTRUCTION EXIT.

INSPECTION

1. INSPECT STABILIZED CONSTRUCTION EXIT FOR SEDIMENT ACCUMULATION AND MATERIAL DISPLACEMENT.
2. INSPECT ROADWAY FOR SEDIMENT TRACK–OUT.
3. INSPECT DITCHES TO ENSURE NO SEDIMENT ACCUMULATION.

MAINTENANCE

1. MAINTAIN EACH EXIT IN A CONDITION THAT WILL PREVENT TRACKING OF MUD OR SEDIMENT ONTO PUBLIC RIGHT–OF–WAY.
2. REPAIR AND/OR CLEAN OUT ANY STRUCTURES USED TO TRAP SEDIMENT.
3. REMOVE ALL MUD AND SEDIMENT DEPOSITED ON PAVED ROADWAYS.
4. ADD MORE SIGNS, FENCING OR BARRICADES WHEN VEHICLES ARE EXITING THE PROJECT WITHOUT USING THE STABILIZED CONSTRUCTION EXIT. INSTALL ADDITIONAL STABILIZED CONSTRUCTION EXITS IF NEEDED, YET USE SIGNS AND BARRICADES TO MINIMIZE THE NUIMBER OF STABILIZED CONSTRUCTION EXITS.
5. PREVENT TRACK–OUT BY USING ADDITIONAL BMPs, SUCH AS A TIRE WASH.

REMOVAL

1. REMOVE THE STABILIZED CONSTRUCTION EXIT AND ANY SEDIMENT TRAPPING STRUCTURES AFTER THEY ARE NO LONGER NEEDED, OR WITH FINAL SITE STABILIZATION.
2. REGRADE AND PERMANENTLY STABILIZE THE REMAINING DISTURBED AREAS ACCORDING TO THE PLANS.

ROCK CONSTRUCTION EXIT NOTES:

MATERIALS

ROCK: 2– TO 3–INCH COARSE AGGREGATE OR 3– TO 6–INCH QUARRY SPALL OR ANGULAR ROCK, WHICHEVER IS APPROPRIATE TO THE PROJECT FLEET.

INSTALLATION

1. PLACE THE FILTER FABRIC AND ROCK TO THE SPECIFIC GRADE SHOWN ON THE PLANS.

MAINTENANCE

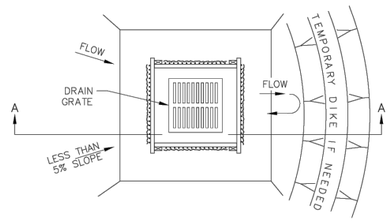
1. REMOVE ACCUMULATED SEDIMENT OR MUD.
2. REPLACE ROCK MATERIAL WHEN SURFACE VOIDS ARE FILLED WITH SEDIMENT. REPLACE FABRIC AS NEEDED.
3. TOP DRESS WITH 2 TO 3 INCHES OF COARSE AGGREGATE OR 3– TO 6–INCH COARSE ROCK WHEN THE PAD BECOMES LADEN WITH SEDIMENT.

INSPECTION

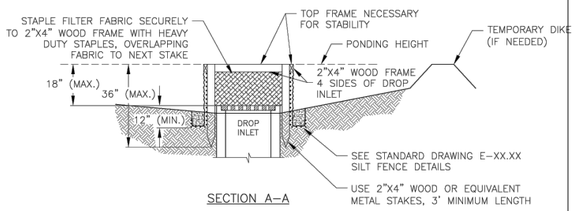
1. INSPECT FOR ROCK THAT HAS BEEN DISPLACED FROM THE PAD.

ROCK CONSTRUCTION EXIT
NOT TO SCALE

BMP 28.00 – FILTER FABRIC FOR AREA INLETS



PLAN



SECTION A–A

FILTER FABRIC FOR AREA INLETS
NOT TO SCALE

AREA INLET FILTER FABRIC NOTES:

MATERIALS

PREFABRICATED UNITS: UPON APPROVAL BY THE ENGINEER, USE IN PLACE OF THE DESIGN SHOWN ON THIS DRAWING.

FILTER FABRIC: (SILT FENCE) SHALL COMPLY WITH SECTION 729–2.04 SILT FENCE.

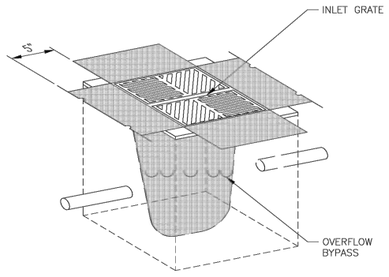
INSTALLATION

1. IF PREFABRICATED BARRIERS ARE USED, INSTALL AS SPECIFIED BY THE VENDOR OR MANUFACTURER.
2. PLACE A STAKE AT EACH CORNER OF THE INLET OR IN A CIRCULAR PATTERN AROUND THE INLET NO MORE THAN 3 FEET APART. DRIVE STAKES INTO THE GROUND A MINIMUM OF 12 INCHES.
3. ENSURE STABILITY BY BRACING AT THE TOP.
4. INSTALL FILTER FABRIC (SILT FENCE) AS SHOWN ON DRAWING BMP–20.00 SILT FENCE.

INSPECTION, MAINTENANCE, AND REMOVAL

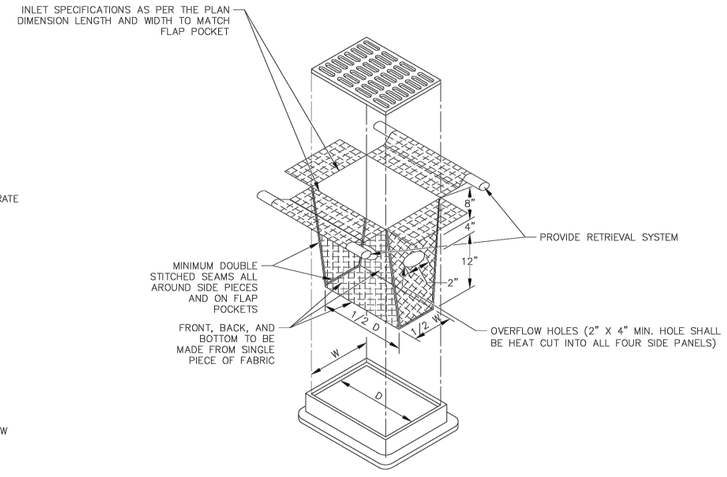
1. SEE STORM DRAIN INLET SEDIMENT PROTECTION GENERAL NOTES ON BMP–25.00 [STORM DRAIN INLET SEDIMENT PROTECTION (NOTES & AREA INLET FIBER ROLL OR GRAVEL/SAND BAG BERM)] NOTES FOR INSPECTION, MAINTENENACE, AND REMOVAL.

BMP 29.00 – SEDIMENT CONTROL INLET HAT FOR AREA DRAINS OR CURB INLETS



PERSPECTIVE

SEDIMENT CONTROL INLET HAT
FOR AREA DRAINS OR CURB INLETS
NOT TO SCALE



PERSPECTIVE

FILTER BAG INSERT
FOR AREA DRAINS OR CURB INLETS
NOT TO SCALE

AREA DRAINS OR CURB INLET NOTES:

MATERIALS

PREFABRICATED UNITS: UPON APPROVAL BY THE ENGINEER, USE IN PLACE OF THE DESIGN SHOWN ON THIS DRAWING.

SEDIMENT CONTROL INLET HATS: SHALL BE A POLYETHYLENE HAT–LIKE STRUCTURE COVERING THE INLET WITH SMALL WEEP HOLES ON THE SIDE PROVIDING A FILTERING FUNCTION FOR THE STORMWATER RUNOFF, AND A LARGE OPENING ABOVE THE WEEP HOLES FOR EMERGENCY OVERFLOW.

FILTER BAG INSERTS: SHALL CONSIST OF A REPLACEABLE FILTER BAG REINFORCED WITH AN OUTER POLYESTER MESH FABRIC.

1. THE FILTER BAG SHALL BE SUSPENDED FROM A GALVANIZED STEEL RING, REBAR OR STEEL RODS, OR FRAME THAT FITS WITHIN A GRATE UTILIZING A STAINLESS STEEL BAND AND LOCKING CLAMP.
2. CONSTRUCT THE FILTER BAG THAT IS SUSPENDED FROM A FRAME OF A POLYPROPYLENE FILTER GEOTEXTILE FABRIC, THAT MEETS THE FOLLOWING MINIMUM REQUIREMENTS:

	ASTM METHOD	VALUE	UNITS
UNIT WEIGHT	––	4	OUNCE/SQ YD
FLOW RATE	––	145	GALLONS/MINUTE/SQ FT
PERMITTIVITY	D4491	0.5	PER SECOND
GRAB TENSILE STRENGTH	D4632	200	POUNDS
PUNCTURE STRENGTH	D6241	80	POUNDS
TEAR STRENGH	D4533	50	POUNDS
DEBRIS CAPACITY	––	2	CUBIC FT

3. DOUBLE STITCH ALL EDGES AND SEAMS.
4. THE FILTER BAG INSERT SHALL HAVE OVAL, EDGE–HEAT–SEALED OVERFLOW HOLES, MINIMUM 2 INCHES X 4 INCHES, CUT INTO ALL FOUR PANEL SIDES.
5. PROVIDE BUILT–IN OVERFLOW BYPASS.
6. THE INLET STRUCTURE'S GRATE OVERFLOW CAPACITY IS AT A MINIMUM EQUAL TO THE DESIGN FLOW CAPACITY.
7. PROVIDE A RETRIEVAL SYSTEM, SUCH AS FLAPS, HANDLES, OR CORDS, TO ALLOW REMOVAL OF THE BELOW–INLET GRATE BARRIER WITHOUT SPILLING THE COLLECTED MATERIAL.

STORM DRAIN INLET SEDIMENT PROTECTION GENERAL NOTES

INSTALLATION

1. IF PREFABRICATED BARRIERS ARE USED, INSTALL AS SPECIFIED BY THE VENDOR OR MANUFACTURER.

INSPECTION

1. CHECK FOR SEDIMENT DEPTH. CLEANING IS REQUIRED WHEN SEDIMENT HAS ACCUMULATED TO ONE–THIRD THE DESIGN DEPTH (OR LESS WHEN SPECIFIED BY THE MANUFACTURER OF PREFABRICATED BARRIERS).
2. CHECK FOR UNDERMINING OR BYPASSING, SUCH AS EVIDENCE THAT SEDIMENT IS ENTERING THE INLET OR THAT RUN–OFF IS BYPASSING THE BARRIER AND ENTERING THE INLET UNTREATED.

MAINTENANCE

1. IF PREFABRICATED BARRIERS ARE USED, MAINTAIN THEM AS SPECIFIED BY THE VENDOR OR MANUFACTURER.
2. CORRECT UNDERMINING OR BYPASSING FAILURES.
3. REMOVE ACCUMULATED SEDIMENT BEFORE IT REACHES ONE–THIRD OF THE AVAILABLE STORAGE OF THE SEDIMENT PROTECTION DEVICE OR LESS WHEN SPECIFIED BY THE MANUFACTURER.
4. REMOVE AND DISPOSE OF ANY ROCK OR DEBRIS THAT HAS ACCUMULATED BEHIND THE SEDIMENT BARRIER TO PREVENT FURTHER CLOGGING.
5. REPLACE FRAYED OR TORN FABRIC OR MATERIALS AND REPAIR ANY STRUCTURAL DAMAGE AS SOON AS PRACTICABLE.

REMOVAL

1. LEAVE INLET SEDIMENT PROTECTION DEVICES IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA IS PERMANENTLY STABILIZED.
2. REMOVE AND DISPOSE OF TRAPPED OR REMAINING SEDIMENT.
3. STABILIZE DISTURBED SOIL AREAS RESULTING FROM REMOVAL OF BARRIERS OR SEDIMENT.

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̱'W DEIYÍ STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
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PH: 907.225.7187
AELC 576

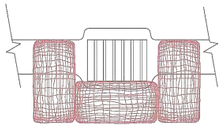
STATE OF ALASKA 49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
ESCP DETAILS

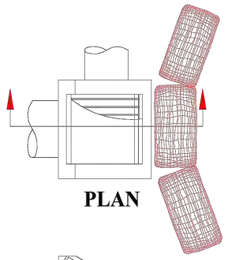
P5

SHEET:
16 of 22

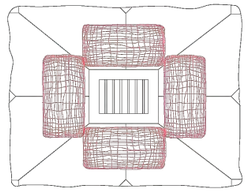
BMP A1 – CURB INLET CATCH BASIN BIO BAG INLET PROTECTION



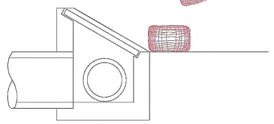
CATCH BASIN



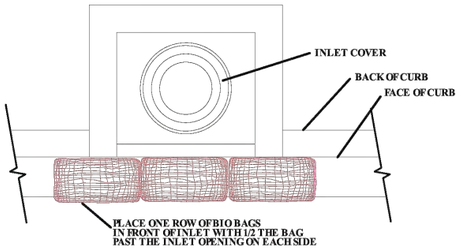
PLAN



AREA DRAIN



DITCH INLET



STORM DRAIN INLET SEDIMENT PROTECTION GENERAL NOTES

INSTALLATION

1. IF PREFABRICATED BARRIERS ARE USED, INSTALL AS SPECIFIED BY THE VENDOR OR MANUFACTURER.

INSPECTION

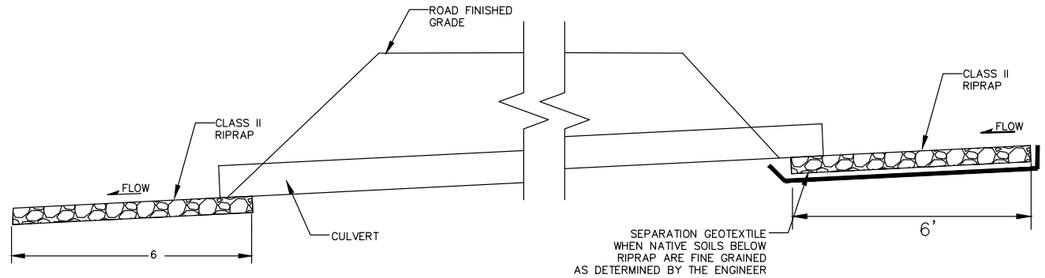
1. CHECK FOR SEDIMENT DEPTH. CLEANING IS REQUIRED WHEN SEDIMENT HAS ACCUMULATED TO ONE–THIRD THE DESIGN DEPTH (OR LESS WHEN SPECIFIED BY THE MANUFACTURER OF PREFABRICATED BARRIERS).
2. CHECK FOR UNDERMINING OR BYPASSING, SUCH AS EVIDENCE THAT SEDIMENT IS ENTERING THE INLET OR THAT RUN–OFF IS BYPASSING THE BARRIER AND ENTERING THE INLET UNTREATED.

MAINTENANCE

1. IF PREFABRICATED BARRIERS ARE USED, MAINTAIN THEM AS SPECIFIED BY THE VENDOR OR MANUFACTURER.
2. CORRECT UNDERMINING OR BYPASSING FAILURES.
3. REMOVE ACCUMULATED SEDIMENT BEFORE IT REACHES ONE–THIRD OF THE AVAILABLE STORAGE OF THE SEDIMENT PROTECTION DEVICE OR LESS WHEN SPECIFIED BY THE MANUFACTURER.
4. REMOVE AND DISPOSE OF ANY ROCK OR DEBRIS THAT HAS ACCUMULATED BEHIND THE SEDIMENT BARRIER TO PREVENT FURTHER CLOGGING.
5. REPLACE FRAYED OR TORN FABRIC OR MATERIALS AND REPAIR ANY STRUCTURAL DAMAGE AS SOON AS PRACTICABLE.

REMOVAL

1. LEAVE INLET SEDIMENT PROTECTION DEVICES IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA IS PERMANENTLY STABILIZED.
2. REMOVE AND DISPOSE OF TRAPPED OR REMAINING SEDIMENT.
3. STABILIZE DISTURBED SOIL AREAS RESULTING FROM REMOVAL OF BARRIERS OR SEDIMENT.



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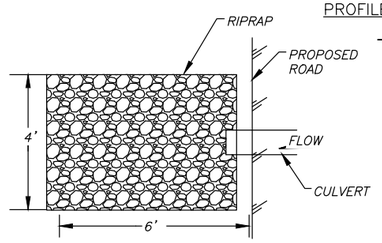
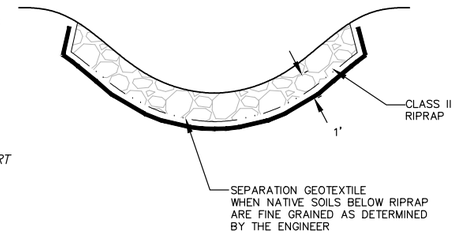


PLAN



SECTION

BMP A2 – CULVERT INLET/OUTLET PROTECTION

REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̲'W DEIYÍ STREET DESIGN

STATUS: PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

R&M ENGINEERING-KETCHIKAN, INC.
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KETCHIKAN, ALASKA 99901
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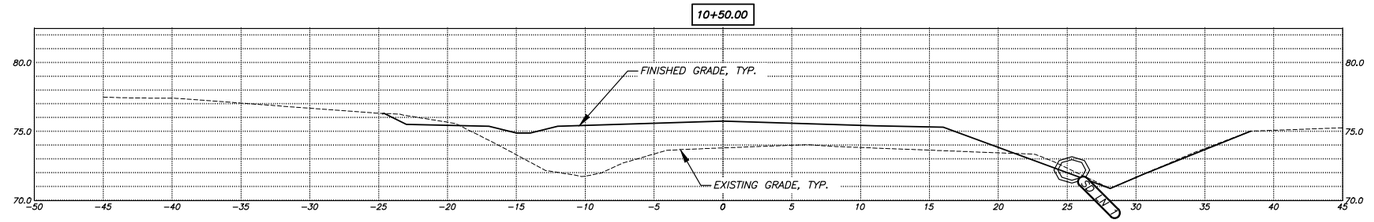
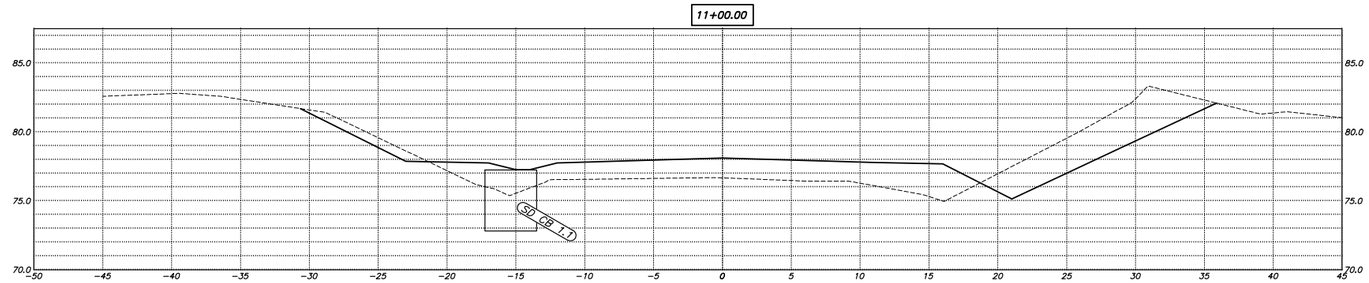
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

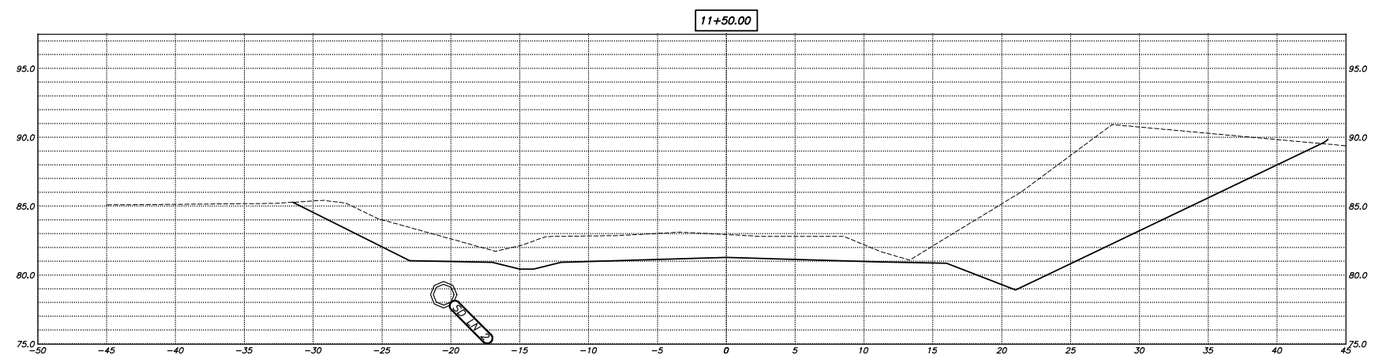
SHEET DESCRIPTION:
ESCP DETAILS

P6

SHEET: 17 of 22







REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̲'W DEIYI STREET DESIGN

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PERMIT SET

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R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
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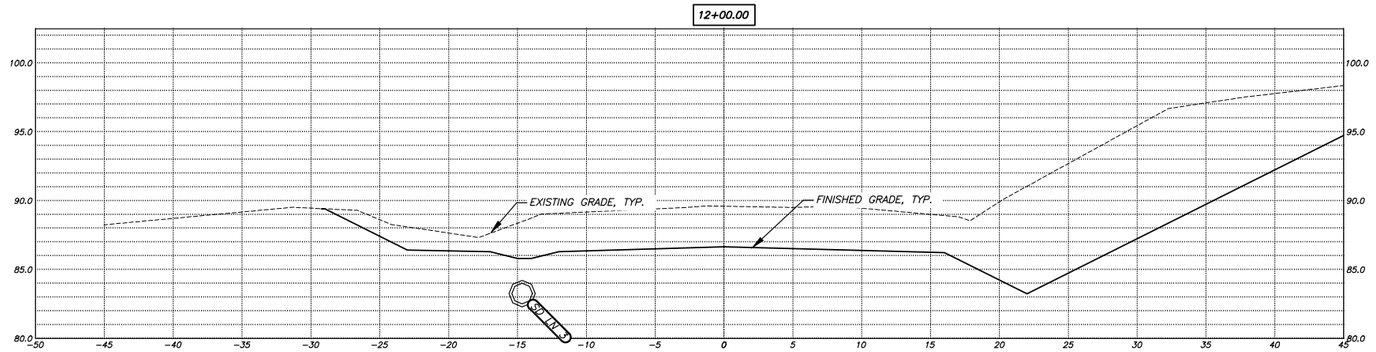
AELC 576

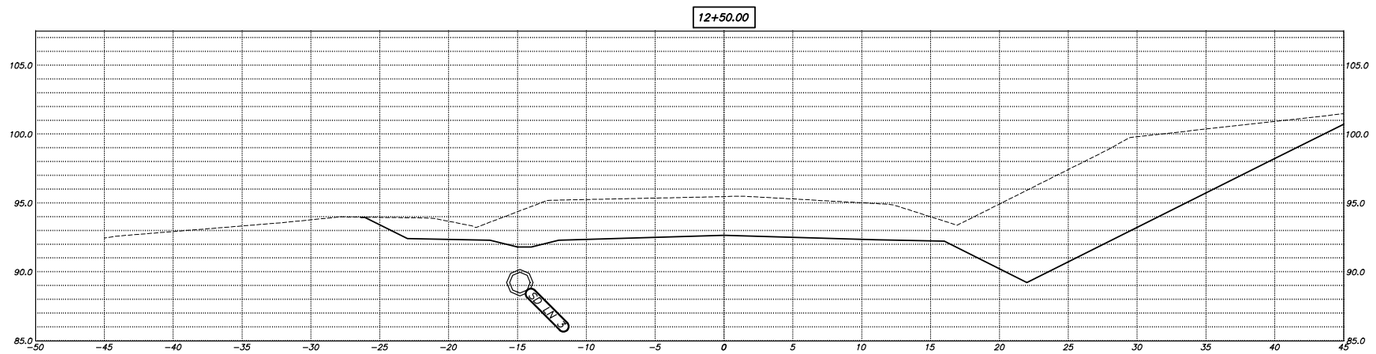
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

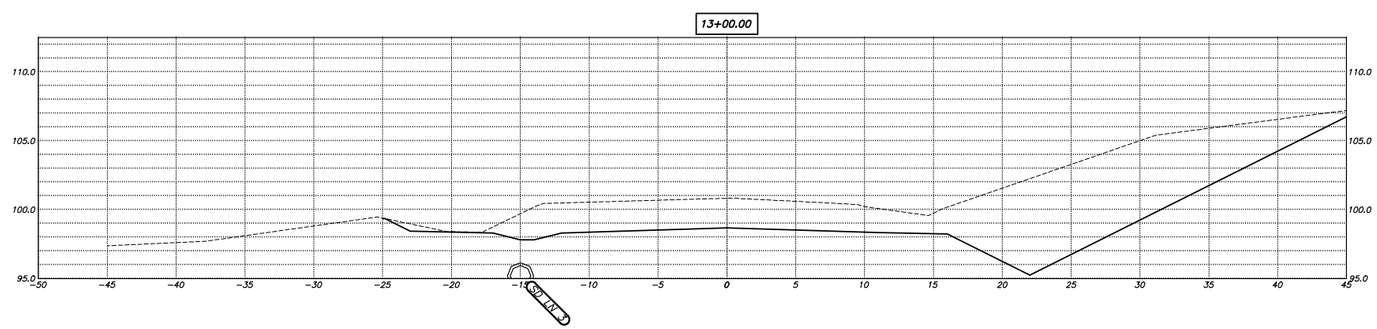
SHEET DESCRIPTION:
SECTION VIEWS

S1

SHEET:
18 of 22







REVISIONS:

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PERMIT SET

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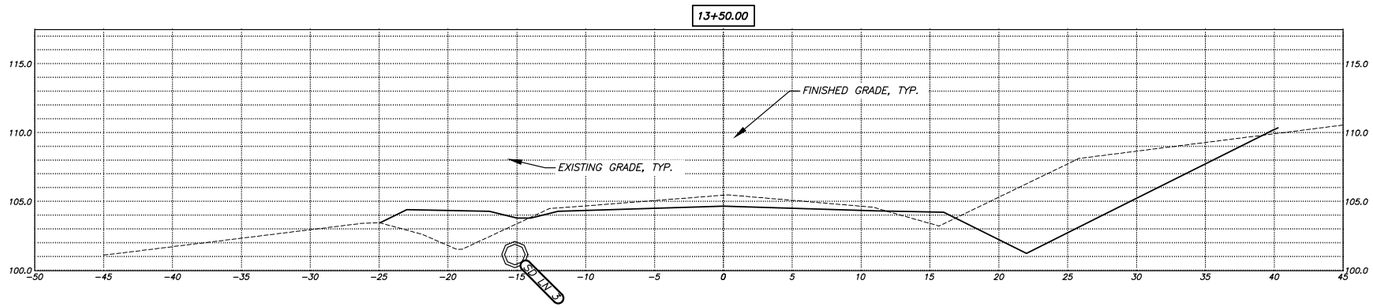
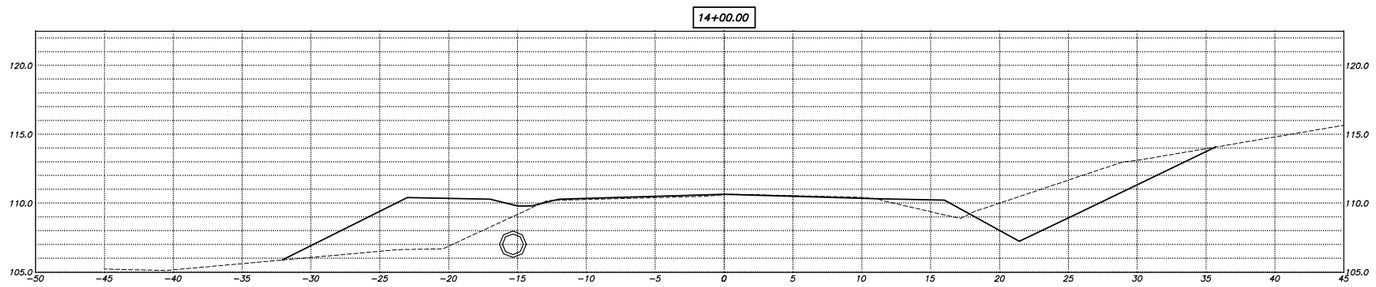
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

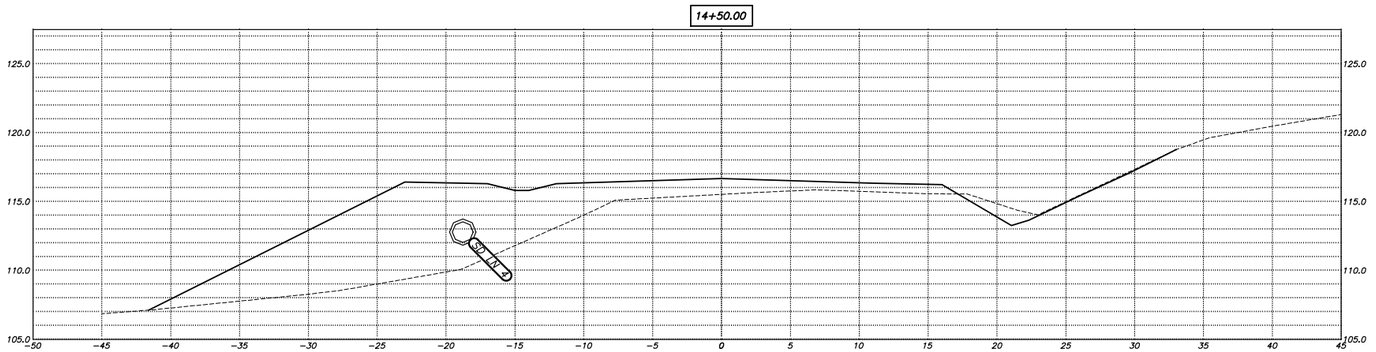
SHEET DESCRIPTION:
SECTION VIEWS

S2

SHEET:
19 *of* **22**







REVISIONS:

SEET KANAX DUTEEN SUBDIVISION
SHÉIX̲'W DEIYI STREET DESIGN

STATUS:
PERMIT SET

DRAWN BY: ZR
CHECKED BY: TS
DATE: 9/5/2025
PROJECT #: 222321.10

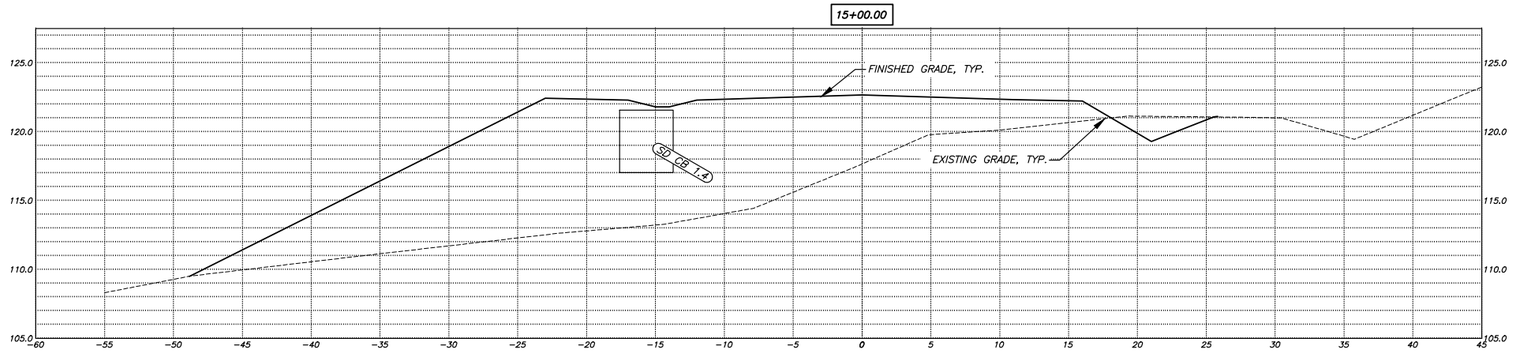
R&M ENGINEERING-KETCHIKAN, INC.
7180 REVILLA ROAD, SUITE 300
KETCHIKAN, ALASKA 99901
PH: 907.225.7187
AELC 576

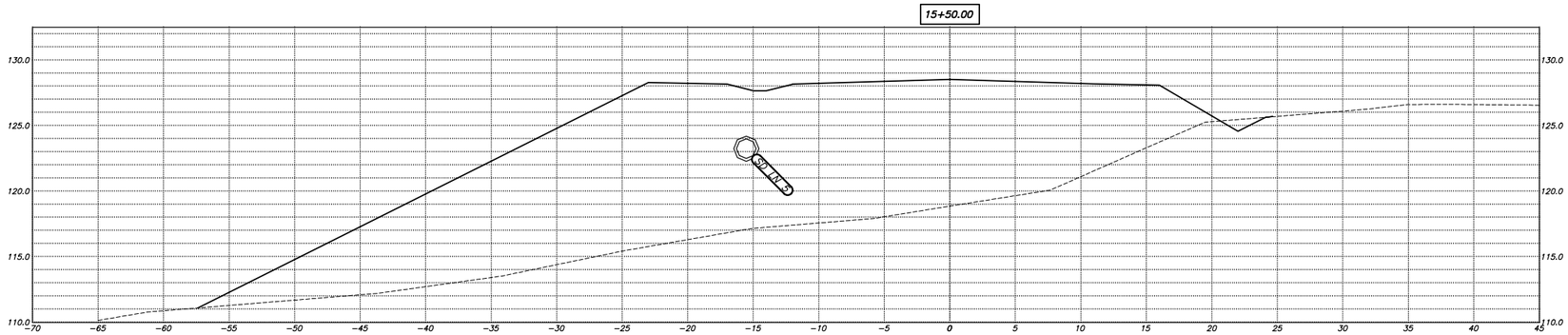
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

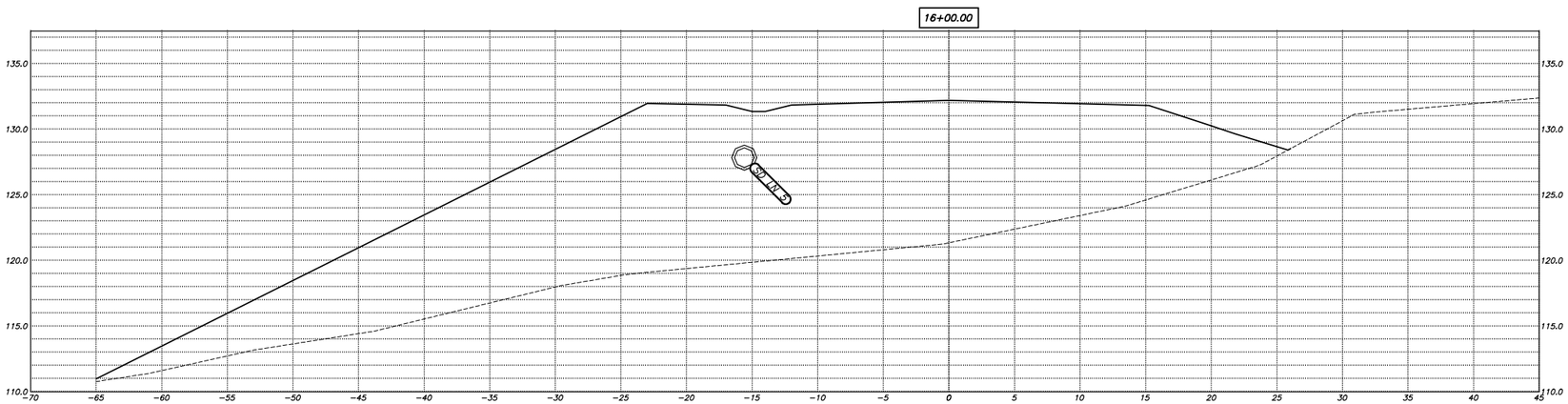
SHEET DESCRIPTION:
SECTION VIEWS

S3

SHEET:
20 of 22







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STATE OF ALASKA
49th
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CE 9778
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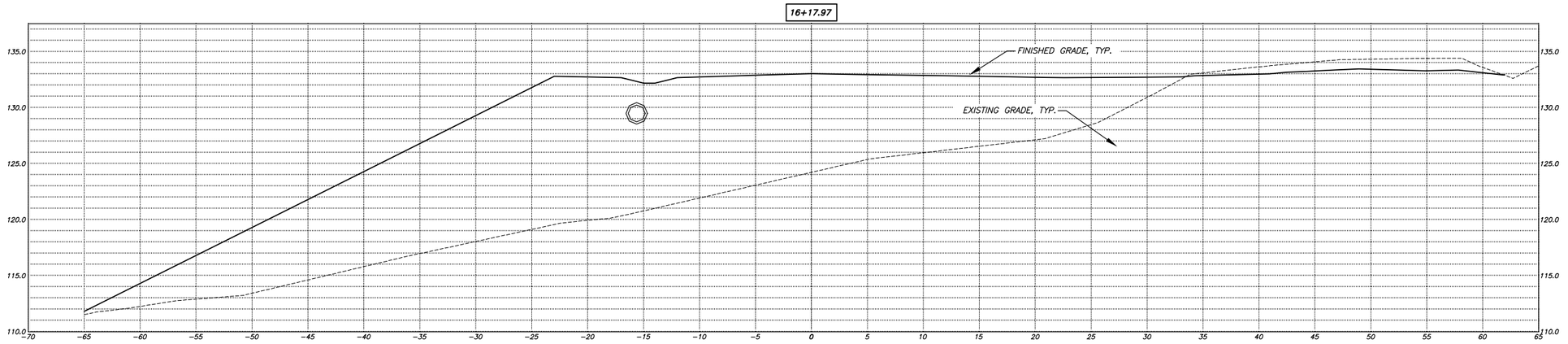
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SECTION VIEWS

S4

SHEET:
21 *of* **22**



REVISIONS:

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SHÉIX̲'W DEIYÍ STREET DESIGN

STATUS:
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STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
9/5/2025
REGISTERED PROFESSIONAL ENGINEER

SHEET DESCRIPTION:
SECTION VIEWS

S5

SHEET:
22 of 22

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

COMMUNITY DEVELOPMENT DEPARTMENT - REQUEST FOR AGENCY COMMENT

DEPARTMENT:	Community Development (CDD) - Zoning
STAFF PERSON/TITLE:	David Peterson, Planner II
DATE:	March 19, 2026
APPLICANT:	Lorraine Deasis
TYPE OF APPLICATION:	Major Subdivision

PROJECT DESCRIPTION:

THRHA requests final plat approval for Phase 1 of Seet Kanax Duteen, consisting of 21 lots and one tract in the D18 zoning district for detached residential development.

LEGAL DESCRIPTION:	USS 2135 TR II
PARCEL NUMBER(S):	6D0601090020
PHYSICAL ADDRESS:	No existing address.

SPECIFIC QUESTIONS FROM PLANNER:

1. Include acreage on Lots, Tract, General Note 2.
2. Revise dates for 2026.
3. Add hatch to easement for stow storage.
4. Outline emergency turnaround access at the end of Sheix'w Deyi.

AGENCY COMMENTS:

Cartography:
1. Change Notary Acknowledgement Date to 2026.
2. I recommend a cross hatch symbol for the easement on Lot 9.
3. In Note 12, change WEST 3RD AVE, to W THIRD ST.
4. Notes 11 and 14 can be consolidated.
5. The southeast boundary of Lot 10 is missing a bearing.
6. The plat is missing a curve table.
7. I'm not seeing any "LINES REMOVED THIS SURVEY", if that's the case, then that symbol can be removed from the legend.
8. Include acreage calculations for new lots.
9. Revise "PHASE 2" to "FUTURE PHASE 2" and use lighter font.
10. THRHA raised concerns regarding the pronunciation of K'wálx within Pederson Hill Subd., are there any concerns about Shéix̲'w?

AGENCY COMMENTS (CONTINUED):

Cartography:
1. Change Notary Acknowledgement Date to 2026.
2. I recommend a cross hatch symbol for the easement on Lot 9.
3. In Note 12, change WEST 3RD AVE, to W THIRD ST.
4. Notes 11 and 14 can be consolidated.
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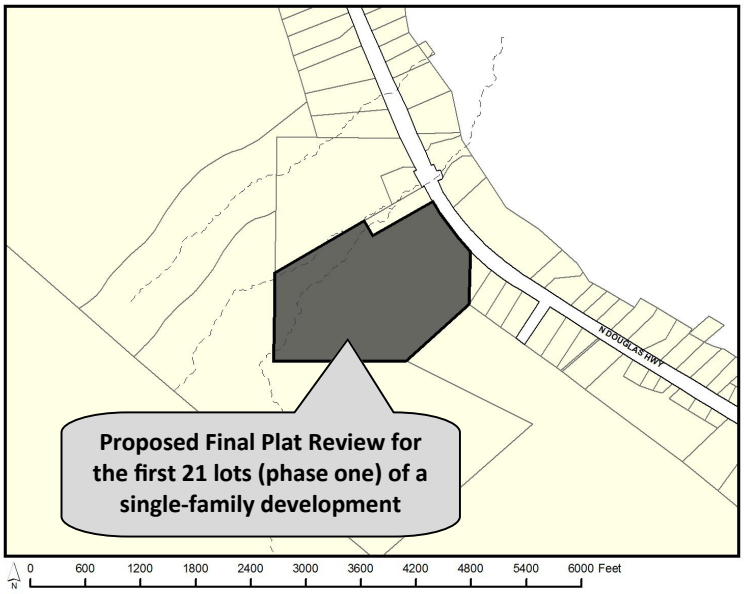
9. Revise "PHASE 2" to "FUTURE PHASE 2" and use lighter font.
10. THRHA raised concerns regarding the pronunciation of K'wálx within Pederson Hill Subd., are there any concerns about Shéix̲'w?

General Engineering:
• Utility plans shall be sized for this as well as total planned development beyond lots 49 and 50 to the north if and when Robbie Road is extended further into Tract A2A1.
• Drainage study shall take into consideration existing terrain draining into Robbie Road.
• Grading plan shall include topographical contours.

Invitation to Comment

On a proposal to be heard by the CBJ Planning Commission

Your Community, Your Voice



CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT
155 Heritage Way Juneau, Alaska 99801

TO

Tlingit Haida Regional Housing Authority requests a Final Plat Review for consideration and public hearing by the Planning Commission for **the first 21 lots, and one Tract of single-family development** in a **D18 zone.**

PROJECT INFORMATION:
Project Information can be found at:
https://juneau.org/community-development/short-term-projects

PLANNING COMMISSION DOCUMENTS:
Staff Report expected to be posted **Monday, April 6, 2026** at
https://juneau.org/community-development/planning-commission
Find hearing results, meeting minutes, and more here, as well.

Now through March 23	March 24 — noon, April 10	HEARING DATE & TIME: 6:00 pm, April 14, 2026	April 15
Comments received during this period will be sent to the Planner, **David Peterson,** to be included as an attachment in the staff report.	Comments received during this period will be sent to Commissioners to read in preparation for the hearing.	This meeting will be held in person and by remote participation. For remote participation: join the Webinar by visiting https://juneau.zoom.us/j/86847221296 and use the Webinar ID: 868 4722 1296 OR join by telephone, calling: 1-253-215-8782 and enter the Webinar ID (above). You may also participate in person in City Hall Assembly Chambers, 155 Heritage Way Juneau, Alaska.	The results of the hearing will be posted online.

FOR DETAILS OR QUESTIONS,

Phone: **(907)586-0753 ext. 4132**
Email: **pc_comments@juneau.gov or David.Peterson@juneau.gov**
Mail: **Community Development, 155 Heritage Way, Juneau AK 99801**

Case No.: SMF2026 0001
Parcel No.: 6D0601090020
CBJ Parcel Viewer: http://epv.juneau.org

Printed March 9, 2026

POSTED 3.19.26

Attachment K – Public Notice Sign

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

PLANNING COMMISSION STAFF REPORT
FLOOD ZONE EXCEPTION FZE2026 0001
HEARING DATE: APRIL 14, 2026

(907) 586-0715
CDD_Admin@juneau.org
www.juneau.org/community-development
155 S. Seward Street • Juneau, AK 99801

DATE: April 6, 2026

TO: Erik Pedersen, Chair, Planning Commission

BY: Forrest Courtney, Senior Planner

THROUGH: Scott Ciambor, Acting Director

PROPOSAL: Applicant requests a Flood Zone Exception for construction of a gymnasium/agricultural structure at Echo Ranch Bible Camp in an unnumbered Velocity (V) Zone.

STAFF RECOMMENDATION: Denial

KEY CONSIDERATIONS FOR REVIEW:

- An alternative area of minimal flood hazard is directly adjacent to the proposed building site.
- Available base flood elevation data is inconclusive.
- Flood loads and Zone V requirements were not evaluated during construction of the foundation, and its condition is unverified.
- Certification of the proposed design and construction methods has not been provided by an engineer or architect.
- The proposed structure serves as a gathering area for activities during storms, when flooding conditions are most likely.
- The site is remote and does not have emergency vehicle access.

GENERAL INFORMATION	
Property Owner	Gospel Missionary Union, dba Avant Ministries
Applicant	Ryan Regier
Property Address	40001 Glacier Hwy
Legal Description	USS 2925 LT 1
Parcel Number	3B4501000041
Zoning	RR
Lot Size	6,788,390 square feet; 155.84 acres
Water/Sewer	On-site water and sewer
Access	Remote Access / Echo Cove
Existing Land Use	Echo Ranch Bible Camp
Associated Applications	BLD0283901

ALTERNATIVE ACTIONS:

1. **Approve:** Approve the permit and adopt new findings for items 1-2 below that support the approval. Approval may require conditions.
2. **Continue:** To a future meeting date if determined that additional information or analysis is needed to make a decision, or if additional testimony is warranted.

ASSEMBLY ACTION REQUIRED:

Assembly action is not required for this permit.

STANDARD OF REVIEW:

- Quasi-judicial decision
- Requires five (5) affirmative votes for approval
- Code Provisions:
  - CBJ 49.70.400
  - CBJ 49.70.400(g)(1)(A)
  - CBJ 49.70.400(g)(2)(B)
  - CBJ 49.70.400(g)(4)(D)
  - CBJ 49.70.400(g)(5)(B)
  - CBJ 49.70.400(j)(1)
  - CBJ 49.70.400(j)(1)(B)
  - CBJ 49.70.410
  - CBJ 49.80

The Commission shall hear and decide the case per CBJ 49.70.410 Exceptions. *The Planning Commission shall hear all Flood Zone Exceptions and shall either approve, conditionally approve, modify or deny the request based on the criteria in section CBJ 49.70.410(b)(c)(d)(e)(f) and (g).*

SITE FEATURES AND ZONING

SURROUNDING ZONING AND LAND USES	
North	Berners Bay
South (RR)	Point Bridgette State Park
East (RR)	Vacant
West	Cowee Creek

SITE FEATURES	
Anadromous	Yes; Cowee Creek
Flood Zone	Zone V; 02110C0550D
Hazard	Not Mapped
Hillside	N/A
Wetlands	PEM1R; E2EM1p; PSS1/EM1C; PSS1B
Parking District	No
Historic District	No
Overlay Districts	Urban/Rural Mining

FLOOD ZONE EXCEPTIONS

Flood zone exceptions may seem similar to non-administrative variance requests; this is not the case. Variance requests that address maximum height or setback requirements are usually related to aesthetic concerns and may affect property values.

Exceptions from floodplain management criteria may affect public safety, environmental protection, and the community's flood risk. Any exception from local floodplain management standards must be closely scrutinized; few exceptions to these provisions can be justified.

As a guiding principle, an exception should pertain to the unique characteristics of the land itself. A properly issued exception may be granted for a parcel of land with physical characteristics so unusual that code compliance would create an exceptional hardship for the applicant. An exception should not be granted, however, based upon the personal circumstances of an individual **(Attachment A)**.

PROJECT DESCRIPTION

The applicant, Gospel Missionary Union, requests a Flood Zone Exception, per CBJ 49.70.410, to allow the construction of a structure on an existing foundation to be used as a gymnasium by Echo Ranch Bible Camp (Echo Ranch) for five (5) months and agricultural storage for seven months (7) out of the year **(Attachment B)**.

The 7,200 square-foot one-story structure would be erected on the foundation of the former gymnasium, constructed in 1988, which collapsed this winter **(Attachment C)**. The foundation was constructed without evaluation of flood loads, general standards for flood protection, or the more stringent Zone V requirements. **(Attachment D)**. Inspection records note that the project engineer, serving as the special inspector, OK'd concrete **(Attachment E)**. Additional required documentation was not provided in 1989 or 1993 **(Attachment F)**. No additional review occurred; BLD 0283901 status was set as finaled in 2021.

The Federal Emergency Management Agency (FEMA) flood insurance rate maps categorize the project area as Zone V without a base flood elevation in the 2013 adopted maps. Zone V indicates an area with a one percent annual chance flooding with velocity hazard (wave action). This category is shown in the map below:

FLOOD HAZARD INFORMATION

Velocity Zones (Zone V) – Also known as coastal high-hazard areas, Zone V is subject to high-velocity wave action from storms or seismic events. Boundaries extend inland to where breaking wave heights or run-up depths fall below three (3) feet.

Base Flood Elevation (BFE) – BFE is the height to which floodwaters are expected to equal or exceed during a 100-year flood event (1% annual chance). BFEs are the primary basis for determining flood risk and elevation requirements [CBJ 49.70.400(g)(5)(B)].

Approximate (Unnumbered) Zones - BFEs are not shown on Flood Insurance Rate Maps (FIRMs) in areas analyzed using approximate methods, including Zone V. Approximate methods are used in areas with low development potential, such as Berners Bay and Echo Cove, and areas of minimal flooding.

No BFE Provided on FIRM – The absence of BFE data does not remove regulatory requirements. The applicant must provide detailed BFE data if development occurs over five acres [CBJ 49.70.400(g)(4)(D)]. Project below this threshold, CBJ shall reasonably apply data available from federal, state, or other sources [CBJ 49.70.400(e)(3)F].

Developer Provided (Echo Ranch): **22.63 feet:** In July 2021, a Letter of Map Revision (LOMR) application, Case No. 21-10-1193P, including proposed BFEs, and a Zone designation change was submitted on behalf of Echo Ranch. **(Attachment G)**.

- Echo Ranch has based its exception request on draft data from this request **(Attachment H)**.
- FEMA suspended review of the LOMR in September 2022 after the additional data requested in August 2021 was not provided. **(Attachment I).**
- Community Development used the LOMR as the best available data to review BLD20240240 **(Attachment J),** based on the understanding that FEMA had tentatively approved the coastal analysis **(Attachment K)**.

- A 2026 review of the LOMR with FEMA concluded that the coastal analysis had not been tentatively approved **(Attachment L)**. FEMA did not provide the submitted documentation or data due to the suspension **(Attachment M)**.

Other Source (Engineering Firm): **25+ feet:** In 2026, a Conditional Letter of Map Amendment (CLOMA) proposed a BFE of +25 feet (MLLW) for the project area, based on maximum tide elevation (MTE) data **(Attachment N)**.

- Review status is unknown.

Other Source (Unknown): **27 feet:** Between 2015 and 2020, Community Development staff and the Planning Commission applied a BFE of 27 feet (MLLW) for the review of building permits and a conditional use permit **(Attachments O & P)**.

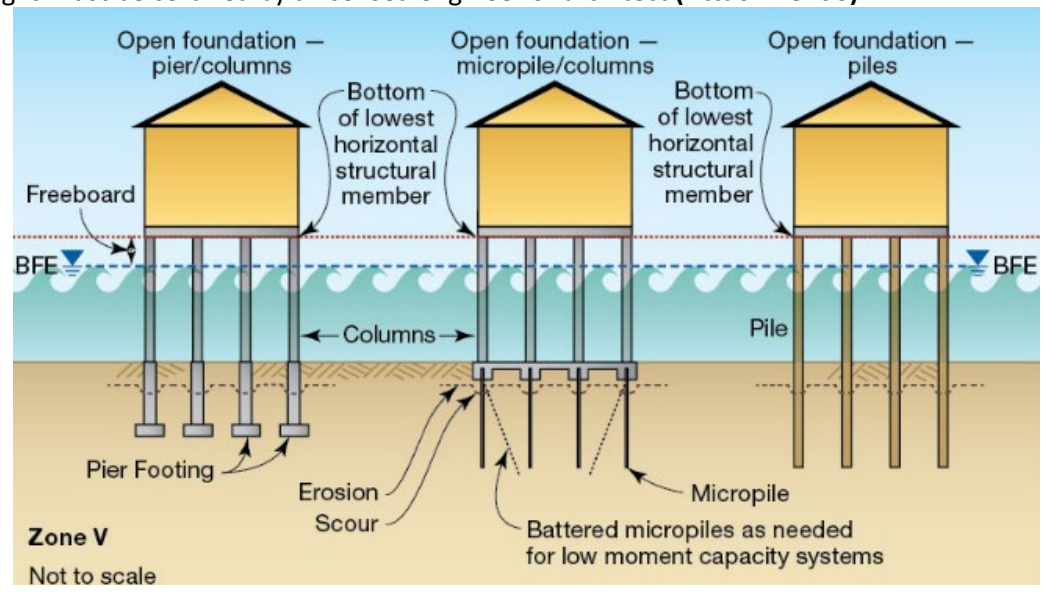
- Assumed to be conservative given the uncertain conditions of a severe coastal event. Possibly derived from Juneau's highest observed tide, 25.02 feet, with an additional two (2) feet freeboard.

Conclusion on BFE Data – No available BFE data meets the technical or scientific standards required under [CBJ 49.70.400(e)(3)(F)].

- **22.63 feet:** LOMR Case No. 21-10-1193P was suspended after additional data requests were not fulfilled.
  - Data is considered technically incorrect.
- **25+ feet:** CLOMA submission lacks analysis or modeling of wave hazards.
  - Data is considered technically incorrect.
- **27 feet**: The technical or scientific basis is unknown.

Velocity Zone Standards - Recognizing the greater hazard posed by breaking waves of three (3) feet high or higher, FEMA requires stricter construction standards in Zone V:

- Open/deep foundations are required (pilings or columns) **(Attachment Q)**
  - Column – Vertical support members with a height-to-least-lateral dimension ratio greater than 3.
  - Pier – Structural elements extending into firm material, width ≥ 12 times the vertical dimension.
- Lowest horizontal structural member must be at or above BFE **(Attachment R)**.
- Foundation and building must resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
- Designs must be certified by a licensed engineer or architect **(Attachment S)**.



ANALYSIS

The potential flood event of this coastal area is from wave action.

The project site has been designated as Zone V without BFE since 1981.

There are no known unusual or special conditions of the property that make it different from neighboring properties.

49.70.400 Floodplain

CBJ Code 49.70.400(a) states the purpose of the CBJ flood regulations, which may provide guidance for the Planning Commission in its review.

Floodplain Development Requirements – The application did not specify which provision(s) of 49.70.400 the exception request applied to.

Following review of the submitted application, the proposed project does not meet minimum requirements and would require a Flood Zone Exception to reduce the general standards for flood hazard protection and requirements for new structures in a V zone:

- Design, modify, and anchor new construction and substantial improvements to prevent floatation, collapse, or lateral movement of the structure [CBJ 49.70.400(g)(1)(A)]
- Use methods and practices that minimize flood damage for new construction [CBJ 49.70.400(g)(2)(B)]
- For development consisting of five (5) acres, if base flood elevation data is not available, the proposal must provide the data and backup information for how the base flood elevation was generated for the proposal [CBJ 49.70.400(g)(4)(D)].
- Submittal of the finished bottom elevation of the lowest horizontal structural member of the lowest floor and its distance from the mean lower low water mark in zone V [CBJ 49.70.400(g)(5)(B)].
- New construction in zone V must be elevated on pilings and columns [CBJ 49.70.400(j)(1)].
- The piling or column foundation and structure attached thereto is anchored to resist floatation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values must each have a one percent change of being equaled or exceeded in any given year (100-year mean recurrence interval). Wind loading values used are those required by applicable state statute and local code. A registered professional engineer or architect licensed in the State of Alaska must develop or review the structural design, specifications, and plans for construction and must certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of subsections (j)(1)(A) and (B) of this section. [CBJ 49.70.400(j)(1)(B)].

FLOOD ZONE EXCEPTION STANDARDS

At the November 30, 2016, Planning Commission meeting, Commissioners had an extensive discussion regarding whether all eleven criteria must be met or just considered. This discussion occurred during deliberations on FZE20160001, a flood zone exception for an outdoor restaurant structure. Final minutes indicate that the Commission concluded that all criteria must be considered, but not met **(Attachment T)**.

FEMA guidance instructs that exceptions can be granted for new construction only if *all* other NFIP requirements in the local floodplain management ordinance are met. If even one criterion is not met, the exception should not be granted **(Attachment A).**

Pursuant to CBJ 49.70.410(b)(c)(d)(e)(f) and (g), a Flood Zone Exception may be granted to provide an applicant relief from the requirements of this Title 49, the Land Use Code.

Per CBJ 49.70.410(b)(c)(d)(e)(f) and (g), a Flood Zone Exception may be granted to provide an applicant relief from requirements of this title after the prescribed hearing and after the Planning Commission has made a determination in accordance with the following requirements:

49.70.410 Exceptions.

(a)The planning commission shall hear all applications for an exception from the provisions of this article, and shall be limited to the powers granted in this article and those necessarily implied to ensure due process and to implement the policies of this article.

(b) In passing upon such application, the planning commission shall consider all technical evaluations, all relevant factors, standards specified in other sections of this article, and:

(1) The danger that materials may be swept onto other lands and cause injury to other persons or property;

The application proposes the erection of a new structure on an existing non-elevation foundation in Zone V, without a determined base flood elevation. Structures within Zone V must be elevated on an open foundation that allows flood waters to flow through it, thereby reducing anticipated impacts associated with wave hazards, including scour.

The BFE data provided in the application to set the elevation requirement is based on a suspended LOMR, which is considered technically incorrect, and the approximate elevation of the lowest horizontal structural member of the lowest floor has not been verified by a professional engineer or surveyor licensed in the state of Alaska.

Without detailed BFE data and a verified lowest floor elevation, the existing foundation and proposed structure may obstruct flows and be susceptible to scour, increasing the risk that materials may be swept onto other lands and cause injury to other persons.

This criterion is not met.

(2) The danger to life and property due to flooding or erosion damage;

The proposed structure would be erected on an existing foundation that was constructed without evaluation of flood loads, general standards for flood hazard protection, or the more stringent Zone V requirements**.**

A licensed professional engineer or architect has not developed or reviewed the proposed structure, design, specifications, or construction plans to certify the design and construction methods. Documentation has not been provided that the existing foundation and proposed structure are anchored to resist flotation, collapse, and lateral movement due to simultaneous wind and water loads acting on all building components.

Site soil characteristics, including erosion/scour potential, which can exacerbate flood loads and are a primary concern for foundation failure in Zone V, have also not been evaluated.

The proposed design to allow flood waters to flow through the structure is not an accepted method for reducing flood loss. Manually operated flood openings (doors) increase the danger to life to the individual required to operate them and pose a risk of structural damage due to hydrodynamic loads if they are not opened.

The application notes that the proposed structure would serve as a place for campers to engage in activities when the weather is bad, making it a likely gathering place during flooding and increasing the danger to life.

This criterion is not met.

(3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

The proposed project design incorporates flood-resistant materials, but, as described above, the existing foundation was not evaluated for flood loads, and the design and construction methods have not been evaluated or certified by an engineer or architect. Assumptions have been made based on BFE data from a suspended LOMR, which is considered technically incorrect and should not be used to evaluate this criterion.

Without detailed BFE data, an evaluation of the existing foundation, certification of the proposed design and construction methods, and verified lowest floor elevation information, the proposed facility and its contents are considered susceptible to flood damage.

This criterion is not met.

(4) The importance of the services provided by the proposed facility to the community;

The application and public comments provide background on the importance of Echo Ranch's services to Juneau and Southeast Alaskans. The supplied narrative details that the proposed facility is important to camp logistics and provides a sheltered area for recreation during bad weather.

The application lacks technical justification for the importance of constructing the proposed facility at this location, given that, as discussed below, property designated as a minimum flood hazard area is directly adjacent to the proposed location.

This criterion is not met.

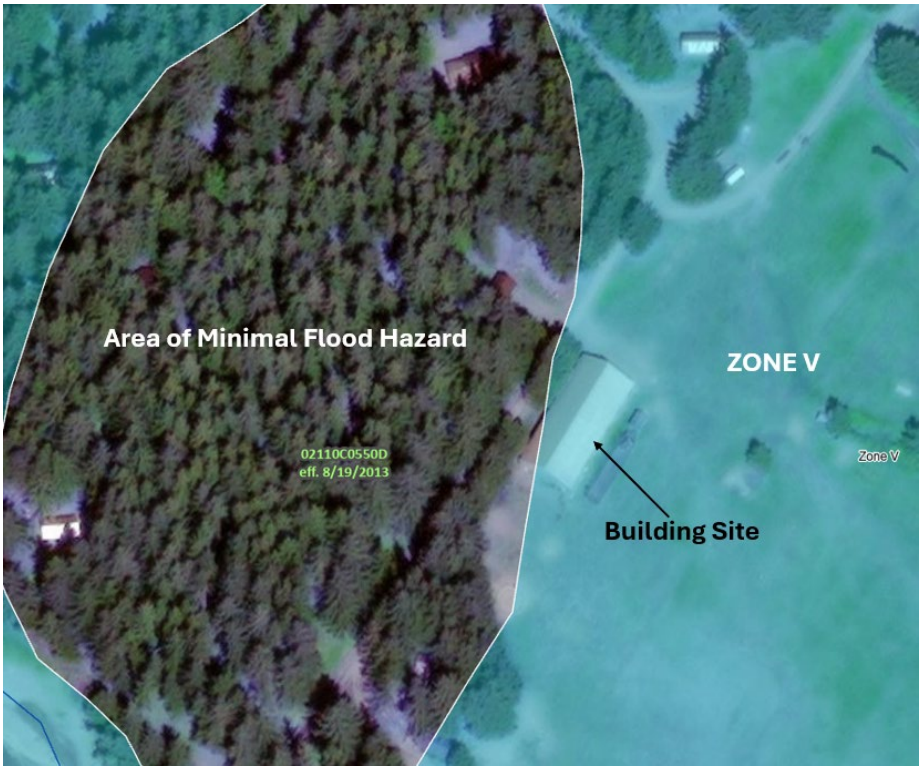
(5) The necessity to the facility of a waterfront location, where applicable;

A waterfront location is not a necessity for the proposed facilities' use. The proposed facility must be located within Echo Ranch, which is constructed along the shoreline of Berners Bay, as discussed below, property within Echo Ranch designated as a minimum flood hazard area is directly adjacent to the proposed location.

This criterion is not met.

(6) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

Approximately 300,000 square feet of property designated as a minimal flood hazard area is directly adjacent to the proposed building site, where the proposed development would not be required to meet minimum standards or to obtain a Floodplain Development Permit or Exception.



This criterion is not met.

(7) The compatibility of the proposed use with existing and anticipated development;

The structure must be located near other Echo Ranch facilities. The proposed use of the structure is compatible with existing and anticipated development and supports current operations.

This criterion is met.

(8) The relationship of the proposed use to the Comprehensive Plan and floodplain management program for that area;

The site is designated as Rural Reserve in the 2013 Juneau Comprehensive Plan. This designation is appropriate for the proposed structure. Considerations for Subarea 1 (4) Support the New Growth Area development, including a mixture of residential, recreational, and water-related uses, in Echo Cove.

Comprehensive Plan Policy 7.18 To regulate development in floodplains, and to maintain a program of education, assistance, and information in order to maintain eligibility for the National Flood Insurance Program for the benefit of local property owners and the lending industry.

While the land use designation is appropriate, the proposal conflicts with the floodplain management policy to regulate development.

This criterion is not met.

(9) The safety of access to the property in times of flood for ordinary and emergency vehicles;

The application did not include information on the safety of access to the property during flooding for ordinary or emergency vehicles.

Echo Ranch Bible Camp's website notes that typically, visitors and campers walk the approximately two (2) miles from the parking lot of Echo Cove into camp. There is a dirt road most of the way on the west shore of the cove.

Direct and practical access to the site for ordinary or emergency vehicles is not provided.

This criterion is not met.

> *(10) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and*

The application does not include technical information regarding expected heights, velocity, duration, rate of rise, sediment transport, or effects of wave action at the site. Additional site-specific factors contributing to building design, including soil characteristics, have also not been provided.

This criterion is not met.

> *(11) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.*

The cost of providing governmental emergency rescue services during and after flood conditions is increased by the remote location and limited access to ordinary vehicles. Public utilities and facilities are not provided on-site.

This criterion is not met.

Criterion B, number 7, has been met.

Criterion B, numbers 1, 2, 3, 4, 5, 6, 8, 9, 10, & 11 have not been met.

(c) Exceptions may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing subsections (b)(1)—(b)(11) of this section have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the exception increases.

Due to the flexibility a lot larger than one-half acre provides for siting a structure outside the Special Flood Hazard Area (SFHA), the technical justification for granting an exception increase.

The lot subject to this exception request is 155 acres, with construction area available outside the SFHA. The application does not provide sufficient technical justification for granting the requested exception.

This criterion is not met.

(d) Upon consideration of the factors of subsection (b) of this section and the purposes of this article, the board may deny or grant the application and may attach such conditions to the grant of an exception as it deems necessary to further the purposes of this article.

Staff analysis indicates that only sub-criterion (b)(7) has been met.

This criterion is not met.

(e) Exceptions may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the state inventory of historic places, without regard to the procedures set forth in the remainder of this section.

The exception request does not involve a structure listed on the National Register of Historic Places or the state inventory of historic places.

This criterion is not applicable.

(f) Exceptions shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

The exception request is not within a designated floodway.

This criterion is not applicable.

(g) Exceptions shall only be issued upon a determination that the exception is the minimum necessary, considering the flood hazard, to afford relief.

As noted under criterion (b)(6), a minimal flood hazard area is directly adjacent to the proposed project site, where the applicant would not be required to meet minimum standards for flood hazard protection.

An exception that waives an applicant's responsibility to provide detailed BFE data, assessment of the existing foundation's condition, and certification of the structural design, specifications, and plans for construction in accordance with accepted standards for Zone V is not considered to be the minimum necessary to afford relief.

This criterion is not met.

(h) Exceptions shall only be issued upon:

(1) A showing of good and sufficient cause;

A "good and sufficient" cause for an exception occurs when a parcel possesses physical characteristics so unusual that complying with regulations would create an exceptional hardship related to the property.

As noted previously, locations directly adjacent to the existing foundation are available for construction, where the proposed development would not require a Floodplain Development Permit or Exception. Alternatively, construction within Zone V is permissible if the minimum requirements are met.

Inconvenience, personal preference, and financial impacts do not qualify as "good and sufficient" causes.

This criterion is not met.

(2) A determination that failure to grant the exception would result in exceptional hardship to the applicant; and

The hardship that would result from failure to grant a requested exception must be exceptional, unusual, and specific to the property involved, not the personal circumstances of the applicant.

As noted previously, locations directly adjacent to the existing foundation are available for construction, where the proposed development would not require a Floodplain Development Permit or Exception. Alternatively, construction within Zone V is permissible if the minimum requirements are met.

Inconvenience, personal preference, and financial impacts do not qualify as exceptional hardships.

This criterion is not met.

(3) A determination that the granting of an exception will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances or conflict with existing local laws or ordinances.

Minimum standards for flood hazard protection are intended to protect the health, safety, well-being, and property of residents. The potential loss of life is greatest in structures where the lowest floor is below the BFE, and where flood depths are greater than three (3) feet or where high velocity floodwater is present. Without detailed BFE data, lowest floor elevation information, and a certification of the design and construction methods, it cannot be determined that granting the requested exception would not create additional threats to public safety.

Due to the remote nature of the property and lack of direct practical access, time and equipment expended by emergency services personnel to evacuate an area or rescue occupants of a flooded structure may result in extraordinary public expense and increased threats to public safety.

This criterion is not met.

PUBLIC COMMENTS

CDD conducted a public comment period between March 25, 2026, and April 2, 2026. Public notice was mailed to property owners within 1,500 feet of the proposed development **(Attachment U)**. A public notice sign was also posted on-site two weeks prior to the scheduled public hearing **(Attachment V)**. Public comments received prior to publishing the staff report are found in **Attachment W.**

Name	Summary
Pam Morris	Support for granting the exception, noting the gym's integral function to the camp that serves nearly 2,000 Southeast Alaskan children and residents every year. Highlighting the gym's importance to programming during rainy days.
Juneau Resident (Hermie D)	Support for granting the exception, so as not to hinder Echo Ranch's ability to provide a great camp experience.
Jessica Dull	Support for granting the exception and anything else required to expedite construction, noting how invaluable the space and function is for all user groups. Not having the gym would mean several uses, activities, and "back-up" plans would require adjustment or cancellation.
Ana Velasquez	Support for granting the exception, noting the positive impact Echo Ranch has had on campers and staffers. The gym's function is highlighted as a safe space for recreation on rainy days, for equipment storage, and for logistics. Requiring relocation of the structure would delay completion and affect attendees.

FINDINGS

1. ***Does the Flood Zone Exception as requested meet the criteria of CBJ Section 49.70.410(b)(c)(d)(e)(f), and (g), Flood Zone Exceptions?***

   Analysis: As discussed above, Section 49.70.410(b)(7) Exception criteria has been met.

   Analysis: As discussed above, Section 49.70.410(e), (f), Exception criteria are not applicable to this project.

   Analysis: As discussed above, Section 49.70.410(b)(1), (2), (3), (4), (5), (6), (8), (9), (10), (11), (c), (d), Exception criteria have not been met.

   Finding: No. The requested Flood Zone Exception does not meet all of the criteria of CBJ Section 49.70.410(b)(c)(d)(e)(f), and (g), Flood Zone Exceptions.

RECOMMENDATION

Staff recommends that the Planning Commission adopt the Director's analysis and findings and DENY the requested Flood Zone Exception. The Flood Zone Exception would allow for the construction of a gymnasium/agricultural structure at Echo Ranch Bible Camp in an unnumbered Velocity (V) Zone.

STAFF REPORT ATTACHMENTS

Item	Description
Attachment A	FEMA Floodplain Management Bulletin P-993
Attachment B	FZE2026 0001 - Application
Attachment C	Photograph – Collapsed Gym
Attachment D	BLD 0283901 – Application Foundation Scans
Attachment E	BLD 0283901 – 1989 Inspection Report
Attachment F	BLD 0283901 - 1993 Inspection Report
Attachment G	LOMR Case No. 21-10-1193P – Annotated FIRM
Attachment H	FZE2026 0001 - Application – Additional Information
Attachment I	LOMR Case No. 21-10-1193P - FEMA Suspension Date
Attachment J	FZE2026 0001 – Application - CDD Email Correspondence
Attachment K	Email Correspondence – Background on Revisions
Attachment L	LOMR Case No. 21-10-1193P - Tentative Approval Review
Attachment M	FEMA Engineering Library – Data Retrieval Request
Attachment N	All Points North – BFE Memo
Attachment O	USE2015 0011 – Chapel Narrative
Attachment P	BLD2020 0219 – Staff Review Sheet
Attachment Q	FEMA Technical Fact Sheet No. 3.1
Attachment R	FEMA Technical Fact Sheet No. 1.4
Attachment S	CBJ V-Zone Certificate
Attachment T	FZE2016 0001 – Meeting Minutes
Attachment U	Abutters Notice
Attachment V	Public Notice Sign
Attachment W	Public Comments

Floodplain Management Bulletin

Variances and the National Flood Insurance Program

FEMA P-993 / July 2014

FEMA

Floodplain Management Bulletin

Variances and the National Flood Insurance Program

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Figure 3: Two examples of repairs where no variance to the building shown in Figure 1. Note the example actuarial rates based on $100,000 in building coverage. 29

Acronyms and Abbreviations

BFE	Base Flood Elevation
CFR	Code of Federal Regulations
DOI	Department of the Interior
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
NFIP	National Flood Insurance Program
SFHA	Special Flood Hazard Area
WSEL	Water Surface Elevation

SECTION 1
Purpose and Background

The National Flood Insurance Program (NFIP) variances procedures are designed to help local governments protect their citizens and property from flood damages. Allowing variances to the local floodplain management standards may significantly increase the property's flood insurance rate and decreased the community's resilience. Therefore, by implementing the NFIP variance procedures, a community will ensure that alternative actions are taken that protect and encourage safe development in the floodplain. This publication outlines the floodplain management variance criteria as set forth in Title 44 Code of Federal Regulations (CFR) Part 60, Criteria for Land Management and Use, Subpart A – Requirements for Floodplain Management Regulations, Section 60.6 (44 CFR §60.6).

This publication is not intended to offer legal advice.

1.1 Purpose

This guidance will assist local government officials in reviewing requests for variances and determining if a request meets the minimum requirements of the NFIP. The variance regulation set forth in 44 CFR §60.6 is not absolute; State zoning enabling legislation or State floodplain management regulations and local case law[1] may take precedence and may be more restrictive. Therefore, community officials should consult their local attorney or State Attorney General regarding the specific requirements of State and local variance regulations.

1.2 Background and Meaning of Variance

A variance is an authorization for the construction or maintenance of a structure or other land uses that would otherwise be prohibited by a land use regulation such as a zoning ordinance. Local floodplain regulations may complement and be augmented by zoning regulations to reduce the community's overall risk to flooding. Relevant to this guidance, 44 CFR §59.1 defines "variance" as "a grant of relief by a community from the terms of a floodplain management regulation." Variances are meant to address unique, site-specific and individual circumstances where the strict application of the ordinance may result in an extreme hardship to a property owner. While the variance is intended to provide relief, it still enables the community to:

- Preserve the purpose and intent of the zoning law/ordinance;
- Minimize legal challenges to the zoning law or floodplain management regulations and avoid an unconstitutional "taking" of private property without compensation; and
- Protect the safety, health, and welfare of the public and emergency responders.

1 Case law dictates following the due process of law detailed in the floodplain ordinance, enforcing regulations consistently, and acting under the advisement of the community's attorney. For more information, consult with your community's attorney.

The authority to grant a variance is typically delegated to communities through State statutes. This authority empowers a community to establish a board to adjudicate variance applications and sets out the standards and elements necessary for granting variances. The standards and elements vary from State to State. Some are strictly defined, and others are imprecise and allow the board greater discretion when granting a variance.

In some cases, a variance granted for floodplain management purposes can result in a project that does not meet the minimum standards of the NFIP. Because a variance can lead to an increased risk to life and property, variances from flood elevation requirements or other floodplain management requirements should be granted only rarely.

SECTION 2

Evaluating the General Merits of a Floodplain Management Variance

The floodplain management variance requirements are based on the general principles of zoning laws in State statutes. The minimum floodplain requirements for communities participating in the NFIP are designed to ensure the practice of sound floodplain management. (See 44 CFR §60.6.) To grant a variance from floodplain ordinances, in addition to meeting the requirements set out by State law, the community must determine:

- Good and sufficient cause and exceptional hardship exist;
- The variance will not result in additional threats to public safety, extraordinary public expense, or fraud or victimization of the public; and
- The variance is the minimum action necessary to afford relief.

If the required standards of State law, local ordinances, and 44 CFR §60.6 are closely adhered to, granting variances from floodplain ordinances should be rare. Additionally, where a variance is granted, some level of flood protection and hazard mitigation should always be required.

2.1 Floodplain Regulations versus Zoning Regulations

Floodplain regulation and zoning regulations, when applicable, are land use and development controls that should be administered in concert to promote the general welfare by minimizing the threat from natural hazards to life and property.

Floodplain regulations are similar in nature and function to zoning regulations in that both involve land use regulation and control, have benefits and performance expectations, and are often implemented under the same legislative authorities at the local or State level. However, floodplain regulations differ from zoning regulations because they specifically address human safety and property protection in relation to a known and defined natural hazard. Furthermore, in accordance with the provisions of 44 CFR Part 60, the local jurisdiction must enforce floodplain regulations for all development in the Special Flood Hazard Area (SFHA).

SPECIAL FLOOD HAZARD AREA (SFHA)

Land areas subject to a 1 percent or greater chance of flooding in any given year. These areas are indicated on Flood Insurance Rate Maps (FIRMs) as Zone AE, A1-A30, A99, AR, AO, AH, V, VO, VE, or V1-30. Mapped zones outside of the SFHA are Zone X (shaded or unshaded), B, or C.

2.2 Evaluating a Floodplain Management Variance

When evaluating a request for a variance, communities should first look to their own State law and local land use zoning and floodplain management requirements. While each State has adopted individual and often unique requirements and procedures for the issuance of variances, common examples of variance criteria include the following:

1. **Hardship**
   - An exceptional hardship related to the property such as unique physical and topographical conditions of the property; this is not related to the individual personal circumstances of the applicant.
   - The hardship related to the property was not caused by the applicant or is shared by adjacent parcels.
   - A variance is required for the applicant to make reasonable use of the property.
2. **Increased Risk**
   - Issuing the variance will not impair the adjacent properties or neighborhood.
   - The variance will not be detrimental to public health, welfare, or safety.
3. **Minimum Action**
   - The variance will deviate from the overall zoning as little as possible to afford the necessary relief.

Variance Review Boards

Typically, variance requests are reviewed by the community planning commission, a separate appeals board, or in some cases the city council. These boards will not have the authority to change the ordinance, only to impose the application or interpretation of the ordinance's provisions. Generally, the community's variance board reviews variance requests only on a structure-by-structure basis. Variance requests should not be reviewed or granted for multiple lots, phases of subdivisions, or entire subdivisions. When a review board follows and considers the intent and procedures outlined in the NFIP criteria, few situations would qualify for a floodplain management variance related to flood elevations or flood loss reduction provisions in the local ordinance.

Key Issues to Consider

A community should consider four important issues before granting a variance: (1) the community's liability, (2) the cumulative impacts on the floodplain of granting multiple similar variances, (3) the variance decision will last for the life of the structure, and (4) whether granting a variance will jeopardize the community's participation in the NFIP.

For example, variances are granted for the structure and not associated with the property owner. As such, when communities review a variance request, they should consider the life expectancy of a building. A home built today is expected to last an average of about 100 years; shopping malls with traditional parking lots have a life expectancy of about 12 to 20 years; commercial structures have a life expectancy of about 25 to 75 or more years, depending on building type. If the structure is located within a floodplain, the cumulative effects of development will increase possible flood damage to the structure.

SECTION 3

Floodplain Management Variance Review Process

To properly administer its floodplain management ordinances, including the granting of variances, a local government should establish a standardized variance review procedure. This procedure must be within the bounds of State-enabling law and in accordance with local laws and ordinances. In most cases, the variance standards in 44 CFR §60.6 are incorporated into the body of a community's floodplain management ordinance.

The NFIP variance criteria set forth at 44 CFR §60.6 must be read as a whole and not in segments. Therefore, the granting of a floodplain variance is rare.

Administrative procedures for processing and considering variance requests vary from State to State, and often from community to community. Some communities have separate procedures to hear variance requests related to zoning and building codes, while other communities have only one set of procedures. Procedurally, a variance request is usually presented to the appropriate commission (board), which then considers the request during a public meeting or hearing. During the deliberations, reports from the appropriate community official, as well as testimony from the applicant and other potentially affected or interested parties, are usually accepted orally and in writing.

3.1 Types of Variances

In general, there are two types of variances allowed by State law: use variances and area variances. The responsibility for determining that an applicant qualifies for either of these variances rests solely on the community.

A variance is the only legal means by which a community can permit construction that is inconsistent with the provisions in its floodplain management ordinance.

Use variances. Local officials permit a property owner to use a building or parcel for a purpose not normally allowed in a particular zone. An example of this would be allowing someone to establish an office in a residential zone because the property has some unique characteristic that precludes use or development as a residence, and use as an office would not be detrimental to the surrounding properties or the community as a whole.

Area variances. An area variance may be granted when, for instance, a property owner is able to show that there are serious, practical difficulties associated with complying with the dimensional requirements of the zoning ordinance, such as setback requirements or maximum height restrictions.

Floodplain Management Variances

While variances from NFIP floodplain management criteria may seem, at first glance, to be similar to area variances, this is not actually the case. Variance requests that deal with maximum height or setbacks

are usually related to aesthetic concerns, and may affect property values. Variances from floodplain management criteria are not related to aesthetics, but rather may affect the safety and protection of the public, the environment, and the flood risk of a community.

Any variance from local floodplain management standards must be closely scrutinized to determine if it meets State and local standards for variance issuance, as well as the minimum standards adopted by the community in the variance requirements of the floodplain management ordinance.

Variances can be granted for new construction and Substantial Improvements only if *all* the other NFIP requirements in the local floodplain management ordinance are met. If even one criterion is not met, the variance should not be granted.

DEFINITIONS

Substantial Damage: Defined by the National Flood Insurance Program (NFIP) as *"damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred."*

Substantial Improvement: Defined by the NFIP as *"any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure (or smaller percentage if established by the community) before the 'start of construction' of the improvement. This term includes structures that have incurred 'Substantial Damage,' regardless of the actual repair work performed."*

Refer to FEMA P-758, *Substantial Improvement/ Substantial Damage Desk Reference* (2010) for more information.

3.2 NFIP Variance Standards

The NFIP does not set forth an absolute criterion for granting variances from the minimum floodplain management provisions. NFIP regulations provide the basis for each participating community to determine whether construction or other development activities qualify for a variance from the local floodplain management regulations.

The authority and the responsibility to approve or disapprove a variance rest with the local government. However, because variances may expose insurable property to a higher flood risk, the Federal Emergency Management Agency (FEMA) evaluates variances granted by a community to determine whether they are consistent with sound floodplain management standards as required for participation in the NFIP. The floodplain management variance criteria contained in the NFIP regulations are intended to:

- Provide specific floodplain management input to the community criteria for approving variances;
- Inform participating communities of FEMA's guidelines for evaluating local compliance with the standards required for participation in the NFIP;
- Ensure appropriate notification of the issuance of a variance; and
- Advise applicants and future owners of potentially high flood insurance rates.

The NFIP variance standards are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. Though standards vary among States, in general, a properly issued variance is granted for a parcel of property with "physical characteristics" so unusual that complying with the local floodplain management ordinance would create an exceptional hardship to the applicant or the surrounding property owners. Those characteristics must be unique to that specific parcel or property and not be common to or shared with adjacent parcels. The unique characteristics must pertain to the land itself and the intended function of the structure, *not to its inhabitants or the property owners.* Therefore, financial hardship or the health condition of the property owner is never a sufficient cause for granting a variance**.** Section 3.3.3 of this document details the "Good and Sufficient Cause" that must be considered for approval when reviewing a variance.

Some communities have considered floodplain variances based solely on the fact that another Federal or State agency permit has been issued or a project is federally funded (e.g., a U.S. Army Corps of Engineers Section 404 permit or a U.S. Office of Housing and Urban Development Community Development Block Grant). While the NFIP requires a community "to assure that all necessary permits have been received from those government agencies from which approval is required by Federal or State law" (CFR §60.3(a)(2) before issuing a floodplain development permit or considering a variance, the determining factor should be whether a development permit or variance will meet the requirements of the community's local floodplain management provisions, including the cumulative impacts of development within the SFHA. Even if a Federal or State permit has been issued, a community must still determine whether the requirements of the local floodplain management ordinance have been met, and either issue or deny a floodplain development permit, and then review whether to grant a variance. A variance granted based solely on the applicant obtaining a permit or funding grant from a Federal or State does not meet the NFIP requirement in CFR 44 §60.6.

VARIANCES DURING A POST-DISASTER PERIOD

Frequently, post-disaster situations lead a community to erroneously consider granting variances so the rebuilding process can begin quickly. Often, communities are pressured to grant variances for structures that have incurred Substantial Damage. The enforcement of a floodplain management ordinance requires new construction and structures that have had Substantial Damage in SFHAs to be elevated or floodproofed (non-residential only) so they are at or above the base flood elevation (BFE). The consistent enforcement of such an ordinance should be viewed by community officials as the fulfillment of a responsibility to protect the lives and property of residents and business owners, especially in the aftermath of a disaster. It is also a requirement for implementing a sound floodplain management program for the overall betterment of the community, risk reduction, and continued participation in the NFIP. For these reasons, a variance requesting the alteration of floodplain management ordinances involving elevation of a damaged structure in an SFHA would not meet the NFIP variance criteria.

3.3 NFIP Variance Regulations

The following sections describe each criterion of the variance regulations as stated in 44 CFR §60.6.

3.3.1 Floodways

Communities should not issue variances for construction within a floodway if the variance will result in an increase in flood levels during the base flood event.

44 CFR 60.6(A)(1)

Variances shall not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.

Floodway Definition and Background

The floodway is defined in the NFIP regulations as:

> *…the channel of a river or other water course and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. (44 CFR §59.1)*

The floodway is designated on FEMA's Flood Insurance Rate Maps (FIRMs) for riverine areas based on a detailed study called a Flood Insurance Study. It is important to reserve the floodway as a water conveyance area because any encroachments or obstructions placed in the floodway will increase flood heights and/or water velocities, and consequently increase flood damage to other properties.

BASE FLOOD ELEVATION (BFE)

Elevation of flooding, including wave height, having a 1 percent chance of being equaled or exceeded in any given year. The BFE is the basis of insurance and floodplain management requirements and are shown on FIRMs.

Floodway Variance Requests

The intent of this variance criterion is to prohibit development that may increase flood levels which, in turn, could increase potential flood damage to the development and to structures of other property owners. In most cases, alternative locations for the proposed development are available outside the limits of the floodway. Other actions may also be taken or required as a condition of approval to compensate for increased flood levels, such as requiring the applicant to install flood-control measures to accommodate increased discharge.

The burden of proof rests on the applicant or developer, not FEMA, the local community, State, or other agency, to demonstrate that scientific data were used to determine that no increase in flood levels would result from the proposed development. Sufficient proof may include, but is not limited to, studies provided by an appropriately licensed professional.

If no feasible or practical alternative location for the proposed development is available, the variance applicant must demonstrate that it conforms to all of the requirements stipulated in NFIP variance regulations and is in accord with other floodplain management regulations such as:

Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge. 44 CFR 60.3(d)(3)

When deciding whether to issue a variance, the community should consider the potential liability it may encounter if the granting of a variance later results in increased property damages, personal injuries, or even loss of life during a flood.

Even when all variance criteria are met and a floodway analysis has been reviewed and approved by the community, a community may still choose not to grant a variance and deny issuance of a floodplain development permit. Some communities choose to adopt a higher regulatory standard that exceeds the minimum requirements of the NFIP. As a result, based on the potential hazards involved, communities can still prohibit the issuance of variances for floodway development.

Generally, a community may prohibit variance requests based on three potential flood hazards in the floodway:

- The hazard to the development itself;
- The increased hazard the development may cause to other properties; and
- The risk to individuals stranded in isolated structures surrounded by what is, in many cases, rapidly flowing, debris-laden floodwater, and the risk to the rescue workers.

For example, granting a variance that allows the placement of a manufactured home below the base flood elevation (BFE) in a floodway will endanger the lives of its inhabitants because a flood will likely severely damage or demolish the home. Additionally, manufactured homes can float into other structures and cause severe damage, or become wedged in a bridge opening or culvert, which can dramatically increase flood heights upstream and endanger other citizens.

A flooded manufactured home can float off its foundation and cause additional damage nearby.

Because of the hazards of granting variances for development in the regulatory floodway, community officials should carefully consider all of the possible dangers created by the variance issuance. For example, local emergency services personnel may be endangered while attempting to rescue the occupants in fast-moving floodwater. In most cases, the incremental benefits of allowing the development are outweighed by the increased costs of future flood damage and increased life safety hazards.

3.3.2 Lots of One-Half Acre or Less

This variance criterion specifies that variances should generally be granted only for lots that are one-half acre or less; variances for lots of larger sizes must include significant technical justification. The intent of this variance provision is not to place a lesser burden of justification on one-half acre lots, but a greater burden on lots larger than one-half acre.

44 CFR 60.6(A) AND (A)(2)

While the granting of variances generally is limited to a lot size less than one-half acre (as set forth in paragraph (a)(2) of this section), deviations from that limitation may occur. However, as the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.

Variances may be issued by a community for new construction and substantial improvement to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the procedures of paragraphs (a)(3), (4), (5) and (6) of this section.

Variance Requests for Lots One-Half Acre or Less

Common misinterpretations of this variance criterion include using it to justify variance requests related to personal convenience, preference, or aesthetics, e.g., the height inconsistency that would result between adjacent structures if the middle one were elevated to or above the BFE. Aesthetics or other personal preferences should never be a consideration when making variance determinations. This variance criterion addresses the physical, not the aesthetic, characteristics of a lot in relation to the adjacent lots. When balancing an applicant's personal issues with issues related to public health and safety, such as the minimum NFIP criteria, a community should always choose public safety and the protection of lives and property.

Some communities misinterpret this variance criterion to mean that variances can be granted systematically for all remnant or "in-fill" lots of less than one-half acre located in subdivisions built prior to the effective date of the community's current FIRM. Granting a variance on an "in-fill" lot of less than one-half acre is not automatic.

The granting of variances for small lots where elevation on fill will pose an exceptional hardship due to drainage problems should be rare. Variances for "in-fill" lots of one-half acre or less should be granted on the basis of potential drainage problems only if, as 44 CFR § 60.6(a)(2) explicitly states, all other variance criteria are met. In addition, communities should grant variances for "in-fill" lots only if a professional engineer or architect has prepared and certified data demonstrating that no technically feasible methods are available to alleviate or mitigate the drainage problems.

Variance Requests for Lots Larger Than One-Half Acre

The 44 CFR §60.6(a) specifically states that "as the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases." The one-half acre threshold is meant to be a *general* cutoff point and is related to the intrinsic qualities of the site or parcel; as the regulations state, "deviations from that limitation may occur" provided sufficient cause has been demonstrated by the applicant in accordance with the variance criteria. However, lots larger than one-half acre, in nearly all instances, have sufficient space to elevate structures on fill to or above the BFE without resulting in adverse drainage impacts on adjacent properties and structures, whether or not the adjacent structures' lowest floor elevations are at or below grade. Because of the additional storage and infiltration capacity on

larger lots, and because of the flexibility of being able to choose a location on a large lot that will have less impact, the technical justification required for issuing a variance based on potential drainage problems increases as the lot size increases beyond one-half acre. Site-specific considerations will vary, including the size of the structure relative to the size of the lot, as well as the location of the structures relative to each other.

Compliant Mitigation Measures for Large and Small Lots

Many design and construction alternatives are available to reduce potential drainage problems while still allowing a structure to be built in full compliance with NFIP regulations. Several acceptable elevation techniques cause no more, and usually less, disruption of drainage patterns than building a structure at ground level through a variance. Examples include:

- Elevating the structure on pilings, columns, or extended foundation walls;
- Grading or landscaping the elevated fill pad to drain away from adjoining properties; and
- Creating natural or artificial infiltration fields or systems at the intersection of the fill slope and the natural ground.

These types of alternatives are often cost effective and visually appealing, without creating drainage problems for adjacent structures. Studies have demonstrated that floodplain-compliant development construction practices and alternatives are effective at mitigating the flood threat and risk to life and property while promoting resiliency. The initial cost of flood-resistant construction has been demonstrated to offset the financial impacts of emergency response, recovery, and other costs associated with flooding, such as the cost of reconstruction, displacement from the residence or business, and loss and replacement of building contents.

3.3.3 Good and Sufficient Cause

44 CFR 60.6(A)(3)(I)

Variances shall only be issued by a community upon a showing of good and sufficient cause.

A variance request by an applicant that is based on a "good and sufficient cause" is one that deals solely with the unique site-specific physical characteristics of the property, subdivision lot, or land parcel in question. Physical conditions are uniquely inherent to the land or property and will not change or be significantly altered over time. A "good and sufficient" cause for a variance occurs when a parcel of land possesses physical characteristics so unusual that complying with NFIP regulations in a local ordinance would create an exceptional hardship related to the property, the surrounding property owners, or the community in general. In addition, the unusual physical characteristics must be unique to that property and not be shared by adjacent parcels or be typical of other lots in the community.

A rendering of a "good and sufficient" cause should never be based on the design character of the planned construction or Substantial Improvements to the structure, the personal difficulties of the owner or inhabitants, or local provisions that regulate standards other than health and public safety standards (e.g., aesthetic restrictions of subdivision homeowner associations). The variance should not be based on the convenience that it would afford the applicant. Inconvenience, aesthetic considerations,

physical handicaps, personal preferences, the disapproval of one's neighbors, or homeowners association restrictions do not qualify as "good and sufficient" causes. In addition, the financial hardship of the property owner is never a "good and sufficient" cause for granting a variance. Granting a variance for construction in a flood hazard area based on financial hardship only increases the probability that the owner will suffer high health and safety risks as well as monetary adversity when the structure is damaged during a flood. In addition, the structure will be subject to higher insurance premiums.

The justification for granting a variance based on physical characteristics should be such that it remains valid over time. In contrast, personal difficulties of the owner and intended uses of buildings can change dramatically with changes in ownership. For example, once the personal circumstances of the owner changes (e.g., the property is sold or leased, or the owner no longer suffers from financial hardship) the justification for the variance may no longer exist, but the structure remains, exposing future owners/occupants to the nonconforming nature of the property and any hazards and public safety problems associated with it. This exposure of life and property to risk from flood damage would be directly attributable to a variance issued based on the personal difficulty of the previous owner.

3.3.4 Exceptional Hardship

The hardship that would result from failure to grant a requested variance must be exceptional, unusual, and specific *to the property involved*, not the personal circumstances of the applicant. When determining whether an applicant has established an exceptional hardship sufficient to justify a variance, the local variance appeal board or other governing body must weigh the applicant's hardship against the community-wide flood damage prevention requirements.

44 CFR 60.6(A)(II)

Variances shall only be issued by a community upon a determination that failure to grant the variance would result in exceptional hardship to the applicant.

As stated in Section 3.3.3, inconvenience, aesthetic considerations, physical handicaps, personal preferences, the disapproval of one's neighbors, or homeowners association restrictions do not qualify as exceptional hardships. This applies even if the alternative means of construction are more expensive or complicated than building the structure with a variance, or if they require the property owner to use the parcel differently than originally intended or build the home elsewhere.

Two examples are provided below to illustrate situations in which variances should not be granted:

1. *A property owner requests a variance to the elevation requirement because it will cost the owner several thousand dollars to elevate the house to comply with an ordinance and an additional several thousand to build a wheelchair ramp to provide access for a handicapped family member.*

   While financial considerations are always important to property owners, and the needs of the handicapped person certainly must be accommodated, these difficulties are not in the category of "exceptional hardships" as they relate to floodplain management variances. These characteristics result in personal hardships (the physical condition and financial situation of the homeowner) rather than pertaining to the property itself.

2. *A property owner requests a variance to the elevation requirement because it will result in a structure that is architecturally different from other structures within a subdivision governed by a homeowners association.*

   Homeowners associations or subdivision boards frequently place restrictions on landscaping and construction practices, such as the total height to which structures can be built, to promote architectural and aesthetic consistency. The owner, and usually the prospective neighbors and homeowners association, protest that the structure, if elevated, will be architecturally out of sync with other structures on the block and that property values will be lowered as a result.

   Local governments must never grant variance requests for exceptional hardship stemming from architectural considerations or conflicts with local subdivision aesthetic regulations. The safety of all residents takes precedence over neighborhood aesthetics.

3.3.5 Increased Flood Heights

44 CFR 60.6(A)(3)(III)

Variances shall only be issued by a community upon a determination that the granting of a variance will not result in increased flood heights.

Development that receives a variance must not cause an increase in water surface elevations (WSELs) during floods of any magnitude, not just the base flood. Therefore, to grant a variance under this provision, a community must meet all the other variance requirements, and the applicant must demonstrate through technical studies that the proposed development will not increase flood heights.

The underlying principle is that an increase in flood heights may increase flood damage to structures in the community that otherwise would not be floodprone. Allowing flood heights to increase is inconsistent with the objectives of sound floodplain management and undermines a community's efforts to protect structures by requiring elevation or floodproofing to or above the BFE. Allowing any increase in flood heights would decrease the level of protection provided by the NFIP requirements.

3.3.6 Public Safety and Nuisances

44 CFR 60.6(A)(3)(III)

A variance will not cause additional threats to public safety or create nuisances.

Variances must not result in additional threats to public safety or create nuisances. Local flood damage prevention ordinances and minimum NFIP requirements are intended to help protect the health, safety, well-being, and property of the local citizens. Local floodplain management is a long-range community effort usually made up of a combination of approaches, including adequate drainage systems, warning and evacuation plans, and keeping new property—especially homes—at or above the BFE. These long-term goals can be met only if exceptions to the flood damage prevention ordinances are kept to a minimum.

Variances that allow the construction of habitable area below the BFE, especially in high-hazard areas such as floodways and areas adjacent to coastal Zone V, increase the risk to life and property of both occupants

and emergency services personnel. The potential for loss of life is greatest in structures where the lowest floor is below the BFE, and where flood depths are greater than 3 feet or where high velocity floodwater is present.

structed below the flood elevation, the variance then raises public safety concerns for the homeowner and adjacent properties.

In additional to potentially increasing public safety concerns, granting variances for elevation requirements often results in abandonment when non-elevated structures are damaged during flood events, thereby creating a public nuisance.

3.3.7 Public Expense

Extraordinary public expenses may include protection and/or repairs to structures, time and materials expended by emergency service personnel, the expense involved in operating disaster assistance programs, and the cost to communities to:

44 CFR 60.6(A)(3)(III)

Variances shall only be issued by a community upon a determination that the granting of a variance will not result in extraordinary public expense.

- Repair or replace public facilities and infrastructure that continue to be exposed to flood damage because a variance was issued;
- Publically fund emergency flood protection measures, such as sandbags and temporary floodwalls, used to protect structures exposed to flooding as a result of the issuance of an elevation variance;
- Accommodate time and equipment expended by emergency services personnel to evacuate an area or rescue occupants of flooded structures;
- Identify public disaster assistance needed by occupants of structures exposed to increased flooding following the issuance of a variance; this assistance may be in the form of various Federal disaster assistance programs (e.g., FEMA, Small Business Administration), non-government organization assistance (e.g., Red Cross), and denominational and other private donations; and
- Repair or demolish flood-damaged properties when such properties were granted variances and the owners, unable to afford repairs, abandon them.

3.3.8 Fraud and Victimization

44 CFR 60.6(A)(3)(III)

Variances shall only be issued by a community upon a determination that the granting of a variance will not cause fraud on or victimization of the public.

Local governments should be careful to never grant variances that have the potential to cause public victimization or fraud. Public fraud or victimization can result when a property that was granted a variance changes ownership. An unsuspecting buyer may be unaware that the structure is subject to flood damage and costly flood insurance rates. Frequently, unsuspecting buyers of previously flooded homes are not aware of the

magnitude of previous flood damage to the structure, or that a variance from the required flood elevation was granted.

An example of the potential for public victimization is when a variance for a nonconforming elevation or floodproofing requirement is granted for a storage warehouse. The units or "bays" of the warehouse, typically rented to the public for personal uses, may victimize citizens who are unaware of the flood hazard and the risk to their property. If the warehouse is flooded and its contents damaged, citizens renting units may have no recourse for financial compensation.

3.3.9 Existing Local Laws or Ordinances

A community should not grant a variance from its local floodplain ordinances if the variance is in conflict with other existing local laws or ordinances or Federal and State laws or regulations that, by statute, the community is required to obey.

44 CFR 60.6(A)(3)(III)

Variances shall only be issued by a community upon a determination that the granting of a variance will not result in conflict with existing local laws or ordinances.

Examples of local laws that may conflict with a floodplain management variance include State and local building codes, health and safety regulations, and laws protecting environmental and other natural resources, including but not limited to threatened or endangered species and historic or cultural resources. Any variance must comply with the provisions of State zoning legislation and case law.

While an approved variance to the floodplain management regulations may allow particular development within the SFHA, a variance to the floodplain standards cannot be used to waive compliance or development requirements for other local, State, or Federal requirements. A variance, if granted, must approve only the absolute minimum necessary to relieve the particular hardship identified through the variance process with regard to floodplain management; it must not exclude or exempt the development from compliance with overlapping policies, regulations, authorities, and jurisdictions.

If a variance to the floodplain development requirements is granted, the development must demonstrate receipt of permits and approvals from all other local, State, and Federal agencies as part of the variance process and prior to issuance of the floodplain development permit associated with the proposed development. For example:

- If a community has adopted the 2012 International Building Code the development must still conform to the applicable building code requirement. Conformance includes verification that all other applicable Federal and State permits have been received prior to issuance of the floodplain development permit.
- If a community has not adopted the 2012 International Building Code or other land use regulations, the development must still comply with the stand-alone provisions of the floodplain ordinance as well as all other applicable State and Federal laws. Conformance includes verification that all other applicable permits have been received prior to issuance of the floodplain development permit.

State and Federal laws that may apply even if a variance has been granted include, but are not limited to:

- State health department requirements for well or septic systems, or other requirements
- Threatened and Endangered Species Act of 2005
- National Historic Preservation Act of 1966
- National Environmental Policy Act of 1970
- Clean Water Act
  - Federal and State wastewater or stormwater discharge requirements and permits
  - Clean Water Act, Section 404 permits

A variance to the floodplain ordinance cannot be used to waive compliance or development requirements for other local, State, or Federal requirements.

When it is not feasible to secure all other permits prior to consideration of a variance and issuance of a floodplain development permit, the local jurisdiction may condition issuance of a flood development permit on receipt of these permits. In these instances, it is important to have administrative procedures established to:

1. Identify which permits are required;
2. Refer and notify the applicable authorities and jurisdictions of permit issuance;
3. Specify within the floodplain development permit, as conditions of approval, the expectation and need to secure and provide copies of these permits in a timely fashion;
4. Communicate these requirements to the applicant and provide contact information to initiate the permitting process with other applicable authorities; and
5. Follow up with the applicant to complete the file with copies of the permits from the other applicable jurisdictions.

3.3.10 Minimum Necessary to Afford Relief

A variance granted by a community must be the absolute minimum needed to minimize or reduce future flood damage and still relieve the hardship, as defined by the previous provisions. In considering variances, the community review board should use local technical staff expertise and recommendations from the building, planning, zoning, or engineering departments.

A "blanket variance" that would waive all NFIP requirements could never meet all of the requirements of a variance. There will always be some feasible action that can be taken to reduce the potential for flood damage.

44 CFR 60.6.(A)(4)

Variances shall only be issued by a community upon a determination that the granting of a variance is the minimum necessary, considering the flood hazard, to afford relief.

For a variance request to waive the elevation requirement, the community review board must require the "minimum necessary" actions. For example, the minimum actions necessary for a non-residential structure may include implementing "wet floodproofing" techniques and meeting the other provisions in the local floodplain management ordinance, including properly anchoring the structure, using flood damage-resistant materials and construction techniques, and elevating utilities as defined in 44 CFR 60.3(a)(3). As another example, if an applicant can justify a variance from the requirement to elevate building utilities above the BFE, the community review board should still require as much elevation as possible to provide some flood risk protection or risk to adhere to the intent of the flood ordinance.

3.3.11 Disclosure

Community officials must notify the applicant that the issuance of an elevation variance will result in increased flood insurance premium rates and that construction below the BFE will increase risks to life and property.

44 CFR 60.6(A)(5)

…a community shall notify the applicant in writing over the signature of the community official that (i) the issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as $25 for $100 of insurance coverage and (ii) such construction below the base flood level increases risks to life and property. Such notification shall be maintained with a record of all variance actions as required… to afford relief.

If the applicant is not required to purchase flood insurance at the time the variance is granted, costly flood insurance rates may not be a factor. However, if the structure experiences flooding at some point in the future, the owner may wish to purchase flood insurance. In addition, future buyers of a structure for which a variance has been granted may wish or be required to purchase flood insurance and may be discouraged from purchasing the structure because of costly flood insurance rates. This situation can be compounded when an unsuspecting buyer purchases such a structure and later discovers that flood insurance is required, at a prohibitive cost.

In addition to notifying the applicant regarding the insurance implications of a variance, the "Planning Considerations in Floodprone Areas" section of the NFIP regulations (44 CFR 60.22) recommends that a community consider requiring full disclosure of the variance "to all prospective and interested parties (including but not limited to purchasers and renters) [44 CFR 60.22(c)(3)(ii)]. Such a disclosure is important and necessary to inform subsequent buyers of structures for which an elevation variance was granted. Some communities require that a copy of the variance be attached to the property title abstract to protect a prospective buyer from victimization. The attached variance should include any conditions and findings that relate to the granting of the variance.

From a public safety standpoint, the prospective buyer has a right to know that the structure will be susceptible to flooding and its occupants subject to a flood risk. From a financial standpoint, the prospective buyer has a right to know that the structure and its contents will be susceptible to damage and that the premium rates applied can be much higher than structures built in compliance with the minimum NFIP standards.

3.3.12 Functionally Dependent Uses

44 CFR 60.6(A)(7)

Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that (i) the criteria of paragraphs (a)(1) through (a)(4) of this [60.6] section are met, and (ii) the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

The NFIP regulations define a "functionally dependent use" as one that cannot perform its intended purpose unless it is located or carried out near water. The term includes only docking facilities necessary for loading and unloading cargo or passengers, and ship building and repair facilities.

The definition of "functionally dependent use" limits variances to the practical problems of building and repairing ships, loading and unloading cargo and passengers from vessels, moving the cargo onto other forms of transportation, and moving the cargo to long-term storage facilities that fully comply with NFIP criteria.

The term does not include long-term storage or related manufacturing facilities since these uses can be located outside the floodplain or fully comply with all NFIP requirements, and are therefore excluded from the definition of functionally dependent use. In accordance with this variance provision, variances for new construction, Substantial Improvements, and any other development necessary for the conduct of a functionally dependent use must meet all other floodplain development and applicable variance requirements. In addition, the structures or other development must be protected by methods that minimize flood damage during the base flood and create no additional threats to public safety.

In many cases, such as port facilities, the seafood industry, or shipbuilding, NFIP floodplain management criteria can be met with the industry still being able to operate as intended. However, because functionally dependent uses must be located on or adjacent to water, practical and operational difficulties may result from the physical characteristics of the property. One way to meet the floodplain management requirements is to use wet floodproofing techniques, such as installing flood damage-resistant materials, elevating mechanical equipment, locating offices above the BFE, using ground fault circuit interrupters, or developing an emergency plan to remove contents before a flood.

If a variance is used to address the unique challenges of functionally dependent uses, it must include only the minimum necessary to afford relief considering the flood hazard. When evaluating variances for functionally dependent uses, the primary concerns should be:

- Preserving human health and safety, both within and surrounding the proposed development, including emergency responders;
- Minimizing flood damage during the base flood;
- Ensuring that no ancillary or additional threats to public welfare will be created; and
- Ensuring that only minimum deviation from the NFIP requirements is made to allow the intended use of the facility.

As with the other variance criteria, no variances for functionally dependent uses may be issued within a designated regulatory floodway if flood levels would increase during the base flood because an increase in flood levels would increase potential flood damage to other property owners.

In many situations, feasible locations for a functionally dependent use are available outside the floodway. If a functionally dependent use must be located in a floodway, the applicant must either demonstrate (using technical analyses) that no increase in the BFE will result or provide additional floodway carrying capacity, such as through channel improvements, to accommodate increased flood flows and ensure that the BFE does not increase as a result of the variance.

Local officials should contact their FEMA Regional office for technical assistance if they encounter situations where functionally dependent uses must be located in a floodway and cannot meet the no-increase-in-flood-stage requirement.

3.3.13 Historic Structures

A variance may be issued for the reconstruction, rehabilitation, or restoration of historic structures if the variance is the minimum necessary to preserve the historic character and design of the structure. "Historic structures" are those listed in the Department of the Interior (DOI) National Register of Historic Places, a DOI-certified State Inventory of Historic Places, or a certified local inventory, and structures listed as a contributing building in a listed historic district.

44 CFR 60.6(A)

Variances may be issued for the repair or rehabilitation of historic structures upon a determination that (i) the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and (ii) the variance is the minimum necessary to preserve the historic character and design of the structure.

The original intent of providing special treatment to historic structures was to comply with the intent of the National Historic Preservation Act of 1966 by:

1. Allowing historic structures to always maintain pre-FIRM subsidized insurance rates; and

2. Minimizing the adverse impacts of NFIP requirements on the historic integrity of historic structures.

For additional guidance on historic structures, see FEMA P-467-2, *Floodplain Management Bulletin on Historic Structures* (2008).

The granting of a variance should be based on a structure-by-structure review to determine whether elevation (or floodproofing, if a non-residential structure is involved) to or above the BFE would destroy the historic character or design of the structure. Variances should only be granted for individual structures and should never be granted for portions of a historic district or an entire historic district. For example, if elevating a historic structure would destroy its character and cause it to be removed from the DOI National Register of Historic Places, a variance for the elevation requirement may be considered. However, the community should place conditions on the variance to minimize flood damage such as:

- Elevate all utilities and finished interior workings to or above the BFE or to the maximum extent possible or practically feasible;
- Use flood damage-resistant materials for interior and exterior improvements wherever possible; and
- Raise the interior floors to or above the BFE or to the maximum extent possible (this is often technically feasible in older structures with high ceilings).

If repair or improvements result in the loss of the structure's historic designation, the structure would no longer qualify for the variance and would be required to meet the NFIP floodplain regulations.

Community Considerations

In addition to this "historic structure" variance criterion, another provision of the NFIP also provides relief for historic structures located in the SFHA. The definition of Substantial Improvement at 44 CFR 59.1 excludes historic structures from its definition by excluding "any alteration of an historic structure provided that the alteration will not preclude the structure's continued designation as 'historic structure.'" The same exclusion also applies to historic structures that have incurred Substantial Damage.

In regulating historic structures, communities have the option of using the provisions as stated in the variance criteria at CFR 60.6(a) or the definition of Substantial Improvement to address the unique needs of historic structures. Communities should adopt only one option to regulate historic structures. Some communities have chosen to adopt the variance criteria in their ordinance, while other communities have chosen to include the historic structure exemption as part of their Substantial Improvement definition. In either case, historic structures can be excluded from the NFIP elevation and floodproofing requirements (non-residential only). When a community exempts a historic structure from the NFIP floodplain management requirements, it should document the process and maintain the documents in the community permit files.

Property Owner Considerations

Owners of historic structures should be aware that physical alterations made to a historic structure may cause the structure to be removed from the National Register of Historic Places, DOI-certified State Inventory of Historic Places, or local inventory. If such alterations cause the structure to lose its official listing or historic status, the structure would no longer be a historic structure for the purposes of the NFIP and would be required to meet the minimum floodplain management requirements of the local ordinance. A determination of whether the structural alternations would forfeit the historic designation should be made before requesting a permit.

SECTION 4

Common Situations in which a Variance May Be Requested

There are several situations in which a variance may be requested. In each case, the variance should be reviewed by the community on its own merit and not in conjunction with an adjacent property.

4.1 Appurtenant/Accessory Structures

One of the most common variance requests that a community may encounter is for appurtenant structures, especially detached garages and storage sheds. If technically feasible, all accessory structures should be elevated to or above the BFE to minimize damage to the structure.

The following are possible conditions that a community may place on a variance for an accessory structure to ensure damage is minimized during a flood event:

ACCESSORY OR APPURTENANT STRUCTURE

Defined in 44 CFR 59.1 as: *"a structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure."*

- Use of the accessory structure must be restricted to parking of personal vehicles or limited storage (storage that is incidental to the primary use of the principal structure). For instance, the storage in the accessory structure should be limited to items such as lawn and garden equipment, snow tires, and other low-damage items that cannot be conveniently stored in the principal structure.
- The accessory structure must be designed with an unfinished interior and constructed with flood damage-resistant materials as described in FEMA's NFIP Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements* (2008).
- The accessory structure must be adequately anchored to prevent flotation, collapse, or lateral movement.
- The accessory structure must have adequate flood openings as described in FEMA's NFIP Technical Bulletin 1, *Openings in Foundation Walls and Walls of Enclosure Below Elevated Buildings in Special Flood Hazard Areas* (2008).
- Any mechanical and utility equipment in the accessory structure must be elevated to or above the BFE or must be floodproofed.
- The accessory structure must comply with floodway encroachment regulations in the floodplain management ordinance.

Communities should not grant variances to entire subdivisions for accessory structures, especially detached garages. As with any other structure type, variances should only be reviewed and issued on an individual or case-by-case basis and be based on the unique characteristics of the site.

Accessory structures located in Zone V areas are subject to excessive hydrodynamic forces associated with wave action and cannot meet the variance conditions described above. In these locations, communities should prohibit accessory structures in Zone V areas, or allow only very low value, "disposable" storage sheds unless the sheds are elevated to or above the BFE. For additional information, see FEMA NFIP *Technical* Bulletin 5, *Free-of-Obstruction Requirements for Buildings Located in Coastal High Hazard Areas.*

4.2 Boat Storage Facilities

Many boat storage facilities constructed in SFHAs are steel-framed buildings with sheet metal exterior walls, a roof, and a concrete floor at ground elevation. Some of these facilities store boats vertically from the ground to the roof on multi-tiered overhead racks using a hydraulic forklift to hoist the boats. Other facilities are simpler in design and function, storing boats on wheeled trailers at ground level.

For the purposes of NFIP floodplain management requirements, boat storage facilities that are walled and roofed buildings are by definition "structures" and must comply with the NFIP requirements. For boat storage facilities to comply with the minimum NFIP requirements, the lowest floor must be elevated to the BFE, or the walls must be floodproofed to be watertight to the BFE.

LOWEST FLOOR

The "lowest floor" of a structure is defined by the NFIP as the lowest floor of the lowest enclosed area.

In determining whether the construction of a boat storage facility is in compliance with minimum NFIP regulations as adopted by the local ordinance, the following factors should be considered:

- Are the construction materials and architectural design of the structure flood resistant?
- Does the proposed operating plan include storage position and techniques (e.g., vertical racks, ground level) and transporting procedures (e.g., forklift, trailers)?
- What is the distance from the water source and the intermediate terrain?
- What is the lot size and orientation?
- What is the severity of the flood hazard (e.g., height of the BFE above natural grade and risk zone designation, Zone V, Zone A, floodway)?
- What is the anticipated water velocity during flood conditions?
- Are the utilities elevated above the BFE?

If the community determines that a variance is warranted, the variance should be issued

WET FLOODPROOFING

Wet floodproofing involves purposely designing a building to withstand inundation by floodwaters and constructing it with materials resistant to or minimally damaged by floods. FEMA's Technical Bulletin No. 7-93, *Wet Floodproofing Requirements for Structures Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program,* provides technical information on wet floodproofing.

only for the minimum necessary to afford relief related to the flood hazard. Communities should place conditions on this type of variance to minimize flood damages. An example would be stipulating that wet floodproofing measures (refer to text box) be applied to a boat storage facility to reduce damage to the structure and its contents. Property owners should understand, however, that wet floodproofing will not result in a reduction of insurance premiums. Structures that are wet floodproofed are rated by the elevation difference between the lowest floor (usually the ground elevation) and the BFE.

4.3 Subdivisions

Variances are not intended to provide a means of exempting lot divisions, phases of subdivisions, or entire subdivisions from floodplain management regulations. Variances should never be granted as part of a split or the creation of multiple lots, phases of subdivisions, or entire subdivisions. Variances can affect public safety, such as variances to the elevation requirement for a subdivision that could potentially increase the risk of flooding for a large number of people, as well as the demand on local emergency services. The granting of variances by a community should be based on a site-specific, structure-by-structure review to determine whether all variance criteria are met. When a property is subdivided, streets and utilities are installed, and individual sites graded, it is generally relatively manageable and cost effective for property owners to meet the floodplain elevation requirements as stated in the local ordinance.

Subdivision design should account for the flood hazard characteristics of the properties. Communities should not approve subdivisions unless the design accounts for the flood hazard. The design of a subdivision should consider access to and from the subdivision to allow local residents a safe evacuation route from the development during a hazard event such as a flood. A safe evacuation route will reduce the demand for emergency services.

4.4 Temporary Development

- Communities may be asked to consider a variance to allow temporary development, such as a highway project or drilling operation, in the floodplain. A variance cannot be granted by a community when the proposed measure is permanent or affects insurable structures.
- Temporary projects, however, for which there is a net public benefit (such as a highway project) are not inconsistent with the variance criteria, provided the conditions described in this subsection are met.

DEVELOPMENT

The NFIP defines development as any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

4.4.1 Considerations for a Temporary Development Variance

- Two conditions should be closely considered by a community before granting a variance for temporary development:

- The magnitude of the impact (i.e., the potential height of the increase in WSEL) caused by the temporary project; and
- The number of insurable structures that would potentially be affected by such an increase during the base flood, and the severity of the impact.

Before granting a variance for temporary development, communities should consider issuing a temporary permit. The greater the increase in WSEL and number of potentially affected structures, the stricter the temporary performance requirements (e.g., sizing of temporary bridge openings) and the less justification for a variance. If the affected area has a low population density and one or more of the following factors are present, the community may want to consider allowing construction of a temporary project or other temporary development using a less restrictive standard:

- The increased flood hazard would be limited to property owned or leased by the State transportation agency or variance applicant, or property for which the owner has acquired "flowage" easement;
- The increased flood hazard would be limited to undeveloped community areas that the local government judges to have no development potential during the time the temporary measure would be in place;
- The increased flood hazard would not affect insurable structures (i.e., cause an increase in flood levels for structures that are already floodprone or cause non-floodprone structures to become floodprone); or
- The State or county transportation authority, another government agency with the power of eminent domain, or a private applicant has agreed to one of the following actions: (1) purchase or relocate structures affected by the proposed project, (2) elevate such structures to the temporary BFE, (3) purchase flowage or flooding easements, or (4) provide other forms of equivalent mitigation such as purchasing flood insurance for the duration of the temporary increase.

If one or more of the above factors are met, any increase in the BFE for the duration of the temporary permit should not adversely affect insurable structures in the community. In this case, the community may decide to grant a variance allowing a temporary project.

4.4.2 Storage of Equipment and Material in Temporary Development Projects

Per the NFIP definition of development, the storage of equipment and materials is subject to local floodplain development permit requirements. Continuous storage operations—such as lumber yards, landscape material yards, recreational vehicle/automobile storage and sale, and junk yards—are also considered development and are subject to floodplain development permit requirements. The storage of equipment and materials should not increase flood heights in the floodway and should meet the other required standards of the floodplain management ordinance.

It is a community's responsibility to make a prudent and reasonable distinction between types of storage activities. This distinction should be based on considerations such as the length of storage time, nature of the materials or equipment being stored, physical characteristics of the floodplain, and characteristics of the flood flows. As a guide, the smaller the SFHA and longer the storage time, the more concerned a

community should become with the placement of materials and equipment within the SFHA and the potential impact of such activities on the storage and conveyance of floodwaters.

> Local governments should be sure to distinguish between the temporary storage of materials and equipment in flood hazard areas and the storage activities associated with continuous businesses, construction operations, or other commercial and industrial enterprises.

The unique characteristics of the site in relation to the flood threat and type of activity, material, or items to be stored may be significant. The type of flood exposure, such as flash flooding or backwater ponding, water velocity and depth, time of concentration, and potential accumulation of debris are factors to consider when determining the effect of allowing temporary storage within the floodplain. Generally, the potential for water to rise more rapidly, the greater the depth and velocity, and the potential to adversely impact neighboring properties, the greater the concern the community should have with the placement of materials and equipment and its impact on the storage and conveyance of floodwaters.

SECTION 5

NFIP Flood Insurance Implications of Variances

Property owners should understand the financial consequences of constructing or repairing a building using an approved variance. While an approved variance may allow development within the SFHA to deviate from specific performance and building standards specified in a local floodplain ordinance, NFIP flood insurance rates and the flood insurance purchase requirement enforced by lending institutions cannot be waived. As described in Section 3.3.11, Disclosure, the variance regulations require that the community notify the applicant that flood insurance rates will likely be substantially higher than rates for a comparable structure that is fully compliant. A variance from elevation requirements—the most common kind of variance requested—increases the risk to a building, and that increased risk is reflected in higher annual insurance premiums. Insurance rates for a building built below the BFE can be substantially higher than those for elevated buildings.

If a local government receives a variance request to construct a building below the BFE, it must notify the applicant (in writing) that granting the variance will result in increased flood insurance premium rates, up to $25 per $100 of coverage. The variance-induced flood insurance premium rates may increase to a level beyond affordability for the owners. For example, a marine supply store on the Gulf Coast was built 14 feet below the BFE in Zone V, resulting in an annual flood insurance premium of $25,000 on a building valued at $100,000. In some cases, the applicant for the variance may not care about the cost of flood insurance. However, if the variance is approved, the impact of the variance on flood insurance premiums may affect future owners who, if they cannot afford the property's high flood insurance rates, may abandon the building and leave the community with a vacant, flood damaged, and essentially uninsurable building.

Property owners seeking to obtain a variance to reduce construction costs should understand that a variance may save money in the short term, but may result in higher costs over the long term as a result of higher insurance premiums or, if uninsured, in flood losses.

The insurance premiums for a single-family home are directly affected by the elevation of the first floor in relation to the BFE. Figure 1 shows a pre-FIRM building constructed with the lowest floor 7 feet below the BFE and an annual premium of $830 that is flooded by the base flood event, incurring Substantial Damage. Figures 2 and 3 show different reconstruction scenarios and the resulting flood premiums. The illustrations provide a clear picture of the cost of actuarial post-FIRM flood insurance rates and, therefore, the true risk to which the building is exposed.

Note: The premiums cited in these figures are for the purposes of this example. Insurance rates vary based on flood zone, date of construction, and lowest floor elevation, and must be computed case-by-case. The premiums shown for the next series of illustrations were computed based on $100,000 in building coverage. Current rates for these buildings may be different from those shown.

Recent changes to the National Flood Insurance Program may result in long-term premium increases to the Standard Flood Insurance Policy.

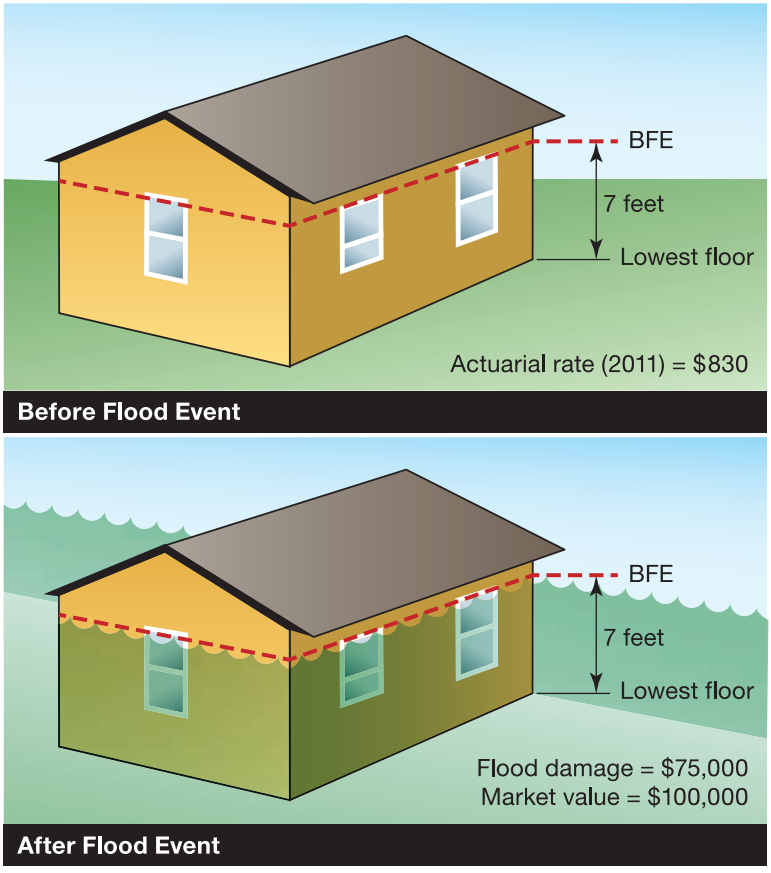


Figure 1: Pre-FIRM building with lowest floor 7 feet below the BFE incurred Substantial Damage during the base flood event.

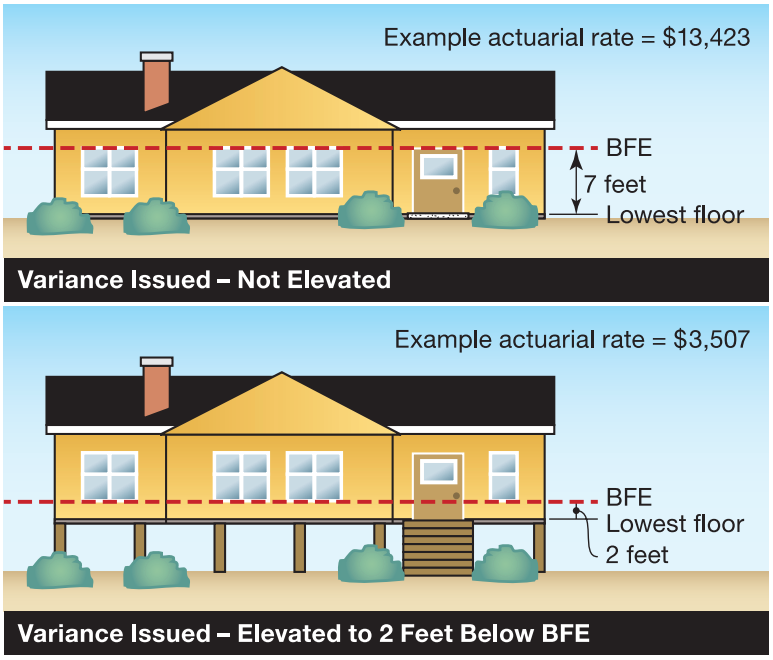


Figure 2: Two examples of repairs requiring a variance to the building shown in Figure 1. Note the example actuarial rates based on $100,000 in building coverage.

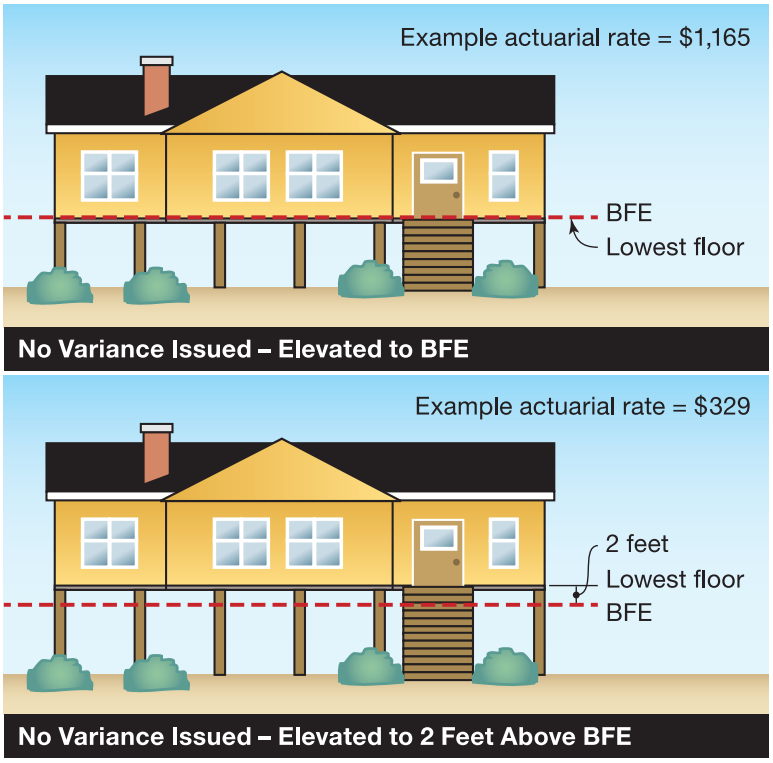


Figure 3: Two examples of repairs where no variance to the building shown in Figure 1. Note the example actuarial rates based on $100,000 in building coverage.

SECTION 6
Additional Resources

Contact the FEMA Regional Office or the State Coordinating Agencies for the NFIP for assistance implementing the NFIP. The current listing of FEMA Regional Offices is provided at http://www.fema.gov/about/contact/regions.shtm. The NFIP State Coordinating Agencies are provided at http://www.floods.org (see State/Local Resource and Tools).

6.1 Federal Emergency Management Agency Publications

Guidance and Manuals

Floodproofing Non-Residential Structures. FEMA 102. May 1986. Available at http://www.fema.gov/library/viewRecord.do?id=3581.

Protecting Building Utilities From Flood Damage: Principles and Practices for the Design and Construction of Flood Resistant Building Utility Systems. FEMA P-348. November 1999. Available at http://www.fema.gov/library/viewRecord.do?id=1750.

Floodplain Management Bulletin on Historic Structures. FEMA P-467-2. May 2008. Available at http://www.fema.gov/library/viewRecord.do?id=3282.

Homeowner's Guide to Retrofitting: Six Ways to Protect Your House from Flooding. FEMA P-312. December 2009. Available at http://www.fema.gov/library/viewRecord.do?id=1420.

Recommended Residential Construction for Coastal Areas: Building on Strong and Safe Foundations. FEMA P-550. December 2009. Available at http://www.fema.gov/library/viewRecord.do?id=1853.

Protecting Your Home And Property From Flood Damage. FEMA P-805. October 2010, http://www.fema.gov/media-library/assets/documents/21471?id=4654.

Substantial Improvement/Substantial Damage Desk Reference. FEMA P-758. May, 2010, http://www.fema.gov/media-library/assets/documents/18562?id=4160.

Repairing Your Flooded Home. FEMA P-234. American Red Cross Publication 4477. October 2010.

Additional resources: http://www.fema.gov/resource-document-library.

National Flood Insurance Program (NFIP) Technical Bulletins

Available at http://www.fema.gov/national-flood-insurance-program-2/nfip-technical-bulletins:

- *Below-Grade Parking Requirements for Buildings Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program.* FEMA Technical Bulletin-6-93 (FIA-TB-6). April 1993.
- *Non-Residential Floodproofing – Requirements and Certification for Buildings Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program.* FEMA Technical Bulletin 3-93 (FIA-TB-3). April 1993.
- *Wet Floodproofing Requirements for Structures Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program.* Technical Bulletin 7-93 (FIA-TB-7). December 1993.
- *Corrosion Protection for Metal Connectors in Coastal Areas for Structures Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program.* FEMA Technical Bulletin 8-96 (FIA-TB-8). August 1996.
- *Ensuring That Structures Built on Fill In or Near Special Flood Hazard Areas Are Reasonably Safe From Flooding in accordance with the National Flood Insurance Program.* FEMA Technical Bulletin 10-01 (FIA-TB-10). May 2001.
- *Design and Construction Guidance for Breakaway Walls Below Elevated Buildings Located in Coastal High Hazard Areas in accordance with the National Flood Insurance Program.* FEMA Technical Bulletin 9. August 2008.
- *Openings in Foundation Walls and Walls of Enclosure Below Elevated Buildings in Special Flood Hazard Areas in accordance with the National Flood Insurance Program.* FEMA NFIP Technical Bulletin 1. August 2008.
- *Flood-Damage Resistant Materials Requirements for Buildings Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program.* FEMA NFIP Technical Bulletin 2. August 2008.
- *Free-of-Obstruction Requirements for Buildings located in Coastal High Hazard Areas in accordance with the National Flood Insurance Program.* FEMA NFIP Technical Bulletin 5. August 2008.

6.2 Comments

Any comments on the Floodplain Management Bulletin should be directed to:

DHS/FEMA
Flood Insurance and Mitigation Directorate
500 C St., SW
Washington, D.C. 20472

6.3 Ordering Information

This document can be downloaded from the following Web site: http://www.fema.gov/library/index.jsp.

Copies of this bulletin and the above-listed publications are available from:

FEMA Publications Warehouse
4440 Buckeystown Pike
Frederick, MD 21704

The FEMA Publications Warehouse also accepts telephone requests (1-800-480-2520) and facsimile requests (240-699-0525)

FEMA

FEMA P-993
Catalog No: 14016-1

City & Borough of Juneau, Alaska
155 Heritage Way Juneau, AK 99801

Plan NO.: ***FZE20260001***
Plan Type: **PL - Flood Zone Exception**
Work Classification: **FZE - Flood Zone - Exemption**
Plan Status: **Fees Paid**
Apply Date: **03/02/2026**
Expiration: **[None Listed]**

Location Address

40001 GLACIER HWY, JUNEAU, AK 99801

Parcel Number

3B4501000041

Contacts

Ryan Regier, Echo Ranch Bible Camp — **Applicant** 12000 Glacier Highway, Juneau, AK 99801-8593 (907) 789-3777 erbcmaint@avmi.org	Randy Alderfer, Echo Ranch Bible Camp - Director — **Other** (907) 789-3777 randy.alderfer@avmi.org
Echo Ranch — **Owner** 12000 Glacier Hwy, Juneau, AK 99801 (907) 789-3777 echoranchoffice@avmi.org	Gospel Missionary Union dba Avant Ministries, Echo Ranch Bible Camp — **Owner** (907) 789-3777 echoranch@avmi.org

Description: We are wanting to rebuild our gymnasium at Echo Ranch that collapsed this winter. The new building will go directly back on the slab of the old gym. The structure will be 60x120 and is partially in an AE zone and a V zone. This new building will be a multi-purpose building, for 5 months of the year it will be used for recreational purposes, the other 7 months it will be used as a storage building and for agricultural purposes as well.

Fees	Amount
Public Notice Sign Fee	50.00
Flood Zone Exception Fee	400.00
Public Notice Sign Deposit	100.00
Total:	**$550.00**

Payments	Amt Paid
Total Fees	**$550.00**
Credit Card	$550.00
Amount Due:	**$0.00**

Additional Information:

Note: *Only answered questions are listed below. For a full view of all application questions see Civic Access More Info Tab:*

https://cityandboroughofjuneauak-energovweb.tylerhost.net/apps/selfservice#/plan/ba459bae-ea89-41d9-9b8f-3c7f5988cf73?tab=moreinfo

Describe the Project: We are wanting to erect a 65' x 120' metal hoop structure covered with waterproof canvas affixed to rows of 2'x2'x6' concrete bin blocks to use for recreational and storage purposes. The building will be used for recreational and staging purposes for around 150 days a year and solely for storage pruposes the remainder of the year.
Base Flood Elevation: 22.63'
Elevation of Lowest Floor: Approximately 23'
structure floodproof elevation: Approximately 25'
Floodplain Insurance Rate Map Panel Number: 02110C0550D
FZE Narrative checklist: Availability of alternative locations, Certification that floodproofing meets standards, Elevation at lowest floor , Elevation structure(s) have been floodproofed , Exceptional hardship if not granted, Expected heights, velocity, duration, rate of rise, Extent that watercourse will be altered/relocated, How an exception will effect life and property, How proposed use relates to flood mgmt programs, How susceptible the proposed facility is to flood, How the proposed facility/use serves the public , If base flood elevation will change and why, If the facility/use requires a waterfront location, Maintenance plan for altered/relocated watercourse, Other applicable info outlined in CBJ 49.70.410(b), Proposed use compatibility with surrounding uses, Why a flood zone exception is needed

March 2, 2026

To Whom It May Concern,

This letter serves as confirmation that the property owner, **Gospel Missionary Union** doing business as **Avant Ministries**, grants permission to the named applicant(s) to perform the proposed work or project on the property described below.

Property Name & Address:
Echo Ranch Bible Camp
40001 Glacier Highway
Juneau, Alaska 99811

Parcel Number: 3-B45-0-100-004-1

Proposed Work: Construct a metal structure on the existing slab where the gym was previously located.

Applicant Names & Contact Information:
Randy Alderfer
Echo Ranch Bible Camp Director
Phone: 907-723-2998

Ryan Regier
Echo Ranch Bible Camp Facilities Director
Phone: 907-500-8787

If further information or verification is required, please feel free to contact us.

Sincerely,

Curt Cole, COO & Authorized Representative
Gospel Missionary Union doing business as Avant Ministries

Avant Ministries
10000 N. Oak Trafficway • Kansas City, MO 64155 | 2121 Henderson Highway • Winnipeg MB R2G 1P8
800. 468. 1892 | 866. 812. 8268
avantministries.org

On the night of January 9th, 2026, Diller Fieldhouse (our camp gym/fieldhouse) collapsed due to the excessive snow load from the same snowstorms that plagued Juneau. We are in desperate need of replacing this building with a new structure to allow us to continue to fully function as a summer camp and retreat center as we have for over 60 years. This Fieldhouse has been a pillar of Echo Ranch since the late 1980s.

Our plan is to deconstruct the current collapsed fieldhouse as soon as we can get out there with the proper help and machinery. The foundation and floor are in great condition; no cracks have been noticed and it looks to be in good structural condition. The current slab (the concrete floor with the basketball court lines painted on) is the only place we can erect a new structure in the time frame we have to be open to the public by May 1st. There is no possible way for us to clear any other land of the trees, do the grade work, and pour a 7,800 square foot slab to make it ready to put up a metal structure in the time frame we have. Due to the flood designation where the current building sits, we have been told that without an exemption from the planning commission we are not allowed by the City to rebuild this critical building in its current location. There is no other option available to us in the AE flood zones at camp.

I don't know what would happen if there wasn't a gym/fieldhouse available to the around 1,000 summer campers that come from Juneau and SE Alaska. They spend a good portion of the activity time in the gym everyday. It is a safe place to play games while it is raining, a great place to build bonds with their fellow cabin mates, and get the activity they need if the weather isn't cooperating. We have 2,000 people come through the gym each year, 1,000 are campers and the other 1,000 are retreaters, community groups and school groups from right here in Juneau. We start every retreat and every camp at the gym, staging everyone's luggage for them to find and tag so we can help them bring it to their cabin. We don't have any facilities that would be large enough to do this if we do not have a new gym/fieldhouse this year.

Not only is it a staging area, it is a great place to play activities and games when the weather is bad. Additionally, a lot of retreats hold classes and sessions in the fieldhouse for their retreaters. For example, ADFG uses the fieldhouse for their Becoming an Outdoor Woman retreat. This space is vital for that retreat to even happen. It is a staging area, a classroom, a gathering place, a recreational facility, etc. It is so many things to so many people that come to camp each year. With its proximity to the recreational area of camp, sports field, challenge course, miniature golf, etc., we utilize this building for a lot of the programming portion of Echo Ranch. If it could not be built again in the same location, it would definitely impede the flow and efficiency of the programming of Echo Ranch.

The base flood plain elevation that the Teri Camry used and adopted as our approved elevation was 22.63'. This was based on a partial report submitted to FEMA by Michael Stephens. *Email correspondence with Teri is attached to application*. The foundation of the old fieldhouse is approximately 1' above the BFE and we are proposing to use concrete bin blocks as footers along the entire perimeter of the new building except at entry points. The blocks are 2' in height, putting the walls starting close to 3' above the prior approved BFE. These concrete blocks are impervious to water damage.

The type of building we would like to erect is a metal hoop structure covered in a waterproof canvas. There will be a 12' overhead door on one side, a 6' double walk in door on the opposite end to allow any water that would rise high enough to come in and go right on through. The likelihood of any sort of flood waters reaching the foundation of the old fieldhouse is extremely low. There has never been any recorded level of water near that structure. There is a slough that runs from the Cowee Creek and will occasionally rise with rain water and tidal influence. This slough is over 620 feet away and there is no evidence of past flooding that the slough has ever overflowed its banks onto the sports field.

With the highest of high tides in the 22-foot range and 3 of the wettest summers on record in the past 10 years, water levels from the influence of the Cowee and tidal rises have never been on our sports field or anywhere near the Diller Fieldhouse. We have never needed any sort of water course or waterway to mitigate water levels getting to the fieldhouse. We feel that it is not necessary for any reason to make any changes to the terrain around the fieldhouse and even the 5 acre sports field that separates the slough from the fieldhouse.

The surrounding structures include the following with distances provided. Volunteer cabin at 160 feet, camper cabin at 90 feet (10 feet higher in elevation), movable storage building on skids at 15 feet, and a gaga ball pit at 100 feet.

We respectfully request that we are allowed to bring our case before the planning commission ASAP (CBJ has expedited the process for many that are rebuilding from natural disasters), to give us the best chance possible of reconstructing this crucial building in time for our fast-approaching summer camping season. If the facility is not rebuilt this year, the camp will face unprecedented disruptions, forced cancellations, and diminished experiences for all participants. The urgency to restore the fieldhouse cannot be overstated: Echo Ranch's operations and service to the community rely on having this essential space available.

CBJ 49.70.410 Exceptions that we feel have been presented in this narrative:

CBJ 49.70.410(a)(2)- Intent of maintaining the economic and social well being of the community while minimizing flood risk.

CBJ 49.70.410(b)3 – Permitted use and replacement of structures in flood hazard areas when consistent with floodplain management objectives. In addressing

CBJ 49.70.410(b)(5)- Exceptions may be granted when no history of flooding exists and site conditions minimize flood risk.

CBJ 49.70.410(b)(7)- Reconstruction or replacement permitted when no other reasonably safe location exists and the project complies with floodplain standards.

CBJ 49.70.410(b)11 - The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges. *With our remote location, there would be no cost whatsoever to the city or state for any issues that would arise with a very unlikely event of a flooding situation that would affect the new fieldhouse structure. There are no public utilities in the area that would be affected*.

CBJ 49.70.410(c)(1)- Requires new construction and substantial improvements to be anchored and flood resistant; the slab already meets these conditions.

CBJ 49.70.410(c)(1)(A)- All new construction or substantial improvements shall have the lowest floor elevated to or above the base flood elevation.

CBJ 49.70.410(c)(2)- Nonresidential structures may be floodproofed or elevated to maintain flood protection.

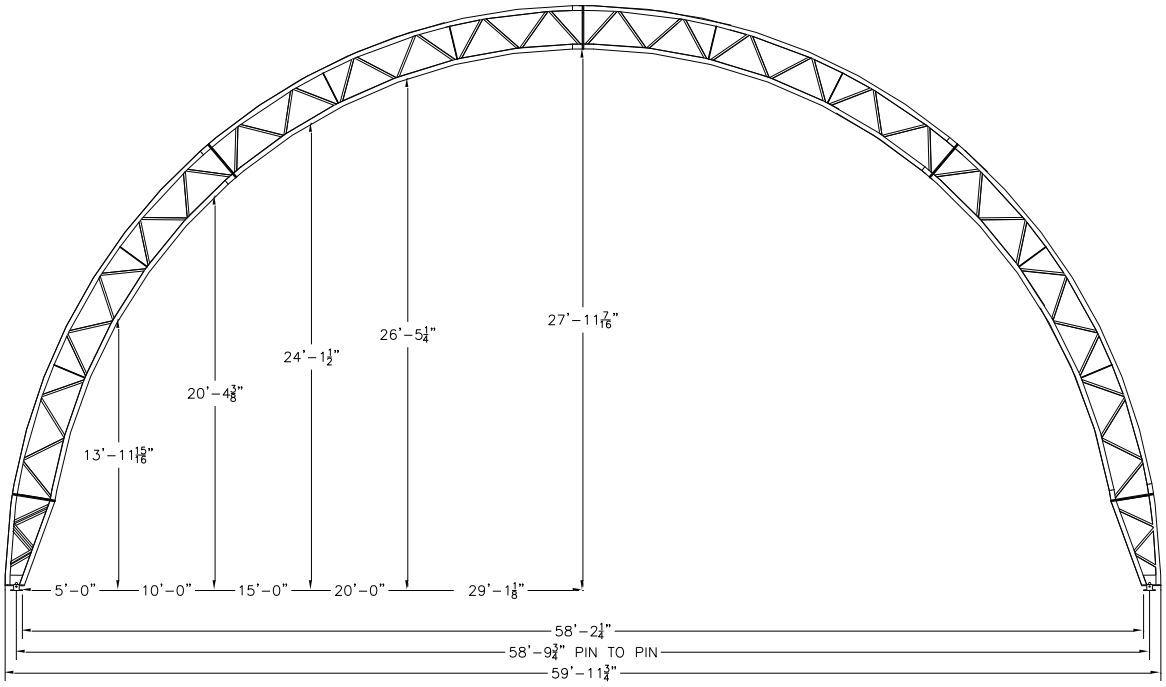
CBJ 49.70.410(c)(3)- Materials must be resistant to flood damage; *both steel and waterproof fabric meet this condition*.

CBJ 49.70.410(c)(4)- Structural designs must minimize flood related damage; *openings on the endwall configuration achieve this requirement*.

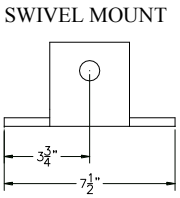
CBJ 49.70.410(c)(6)- Development must not increase flood hazards to other properties; project meets this by maintaining the same footprint and elevation.

Cowee Creek
Diller Fieldhouse

60’ WIDE TRUSS BUILDING



INTERIOR CLEARANCE



WALL MOUNT DIMENSIONS

FRAME COMPONENTS

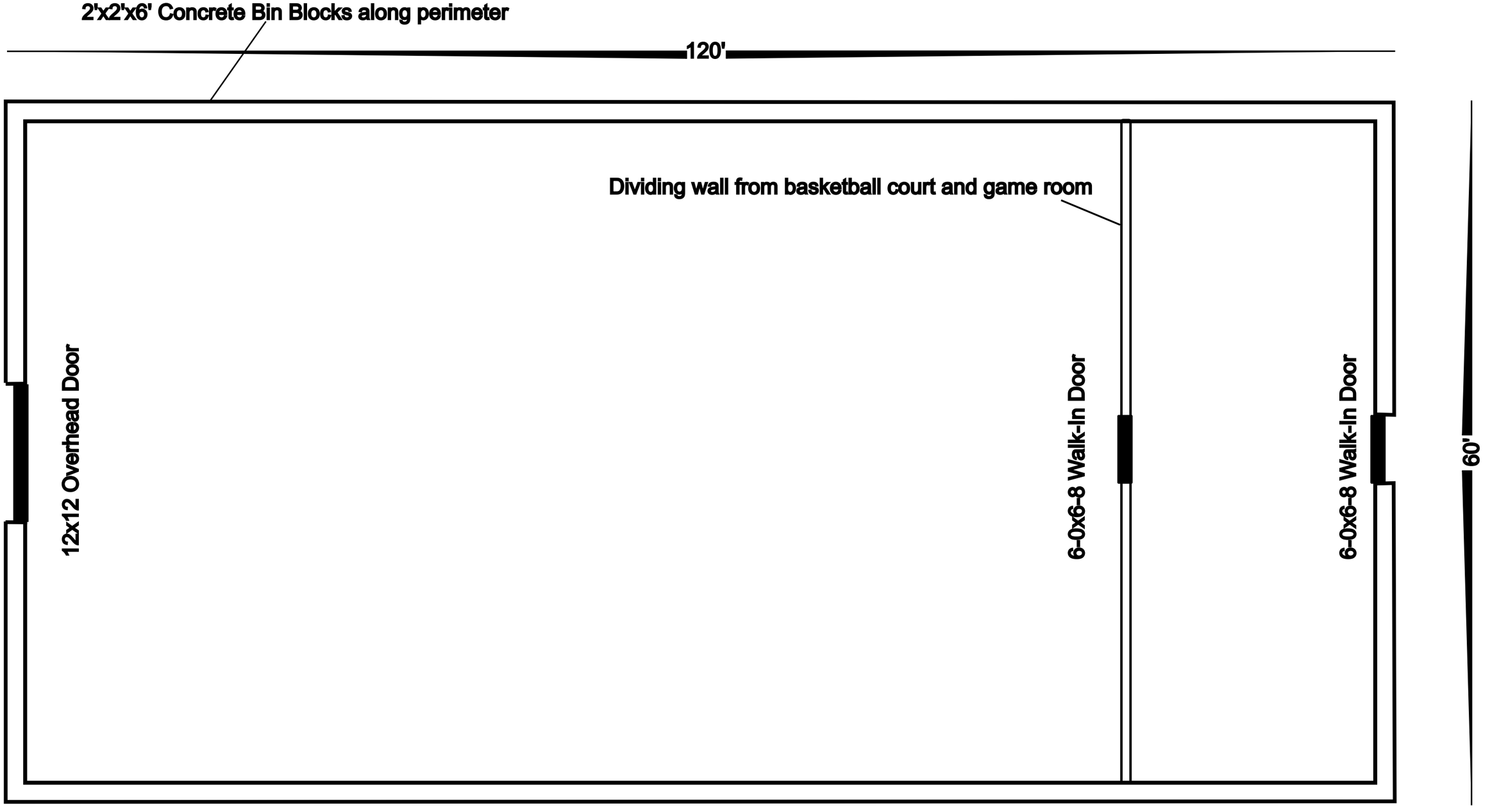
RAFTERS: Welded truss construction with 3-inch **12 gauge** top and bottom chords.
RAFTERS AND PURLINS: Straight and/or “X” bracing configured to application.
RAFTER SPACING: Offered in 8-foot, 10-foot, and 14-foot truss spacing depending on local codes..
PONY WALL MODELS: Designed to be set on wood, concrete, or steel.
Walls must be at least 24-inches high to allow for tensioning.
Included: assembly bolts, lashing winches with mounting brackets.
Not included: posts**,** rub rail, or concrete anchors.

FABRIC COVER

FABRIC: 12.5 oz tear resistant high density polyethylene with reinforced corners and pockets.
COLORS: White, Blue, Green, Red, Tan, Silver, Frost/translucent.
Available as solid colors (some colors may be up charged), with colored canastoga ends, or stripes.
TENSIONING: Pipe and 2” lashing winch at each truss.
Standard end tension kit with ratchets spaced at 36”; high tension kit available.

AVAILABLE OPTIONS

END WALLS: Steel uprights with fabric cover; pipe and 2” lashing winch tensioning.
END WALL SUPPORTS: Our standard uprights with tabs for customer supplied girts and skin.
HEADERS & DOORS: Door headers available. Fabric roll-up doors available.
RIDGE VENTS: 8X16 top vent holes, partial or entire length of building.
AWNING: 5ft awning greatly extends weather protection for buildings with feed-bunks or open sides.
SIDE CURTAINS: Roll-Up curtain to allow ventilation or wind protection. Electric curtain option available.



Echo Ranch - Diller Fieldhouse Replacement - Not to Scale

This is a picture of the hoop styte structure we are wanting to build. This one is on a poured concrete wall. The Manufacturer recommends the 2x2x6 concrete bin blocks for construction when pouring is not practical. Ours will have two endwalls with an overhead door on one side and a double walk-in door on the other, totally enclosing it for weather purposes.

The endwalls and rafters are engineered to IBC for what Juneau requires. Engineering documents are available if the exception is granted.

Gmail

Ryan Regier <ryan.regier@avmi.org>

FEMA and Echo Ranch

Teri Camery <Teri.Camery@juneau.gov> Mon, Feb 12, 2024 at 11:22 AM
To: Ryan Regier <ryan.regier@avmi.org>

Good morning Ryan,

I have Michael Steven's FEMA report with FEMA's tentative acceptance of a Base Flood Elevation of 22.63 feet. This is the number that CBJ will use as the "best available data" for the V flood zone for Echo Ranch.

Please submit a Development Permit Application and Floodplain Development Permit Application for the proposed units with the concrete-enforced piers that you described, with an Elevation Certificate that shows that the lowest horizontal member of the piers is at or above 22.63 feet. It sounds like you are well above that, so the review process should be straightforward.

Thanks very much for your patience.

Best wishes,

Teri Camery

Teri Camery | Senior Planner, CFM

Community Development Department | City & Borough of Juneau, AK

Location: 230 S. Franklin Street, 4th Floor Marine View Building

Mailing address: 155 Heritage Way Juneau, Alaska 99801

Office: 907.586.0753 extension 4129

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

From: Ryan Regier <ryan.regier@avmi.org>
Sent: Tuesday, February 6, 2024 1:29 PM

To: Teri Camery <Teri.Camery@juneau.gov>
Subject: FEMA and Echo Ranch

Teri, just wanting to check in if there has been any headway with the info about the FEMA floodplain and Michael's report. Let me know, thanks!

[Quoted text hidden]

Slough Picture #1

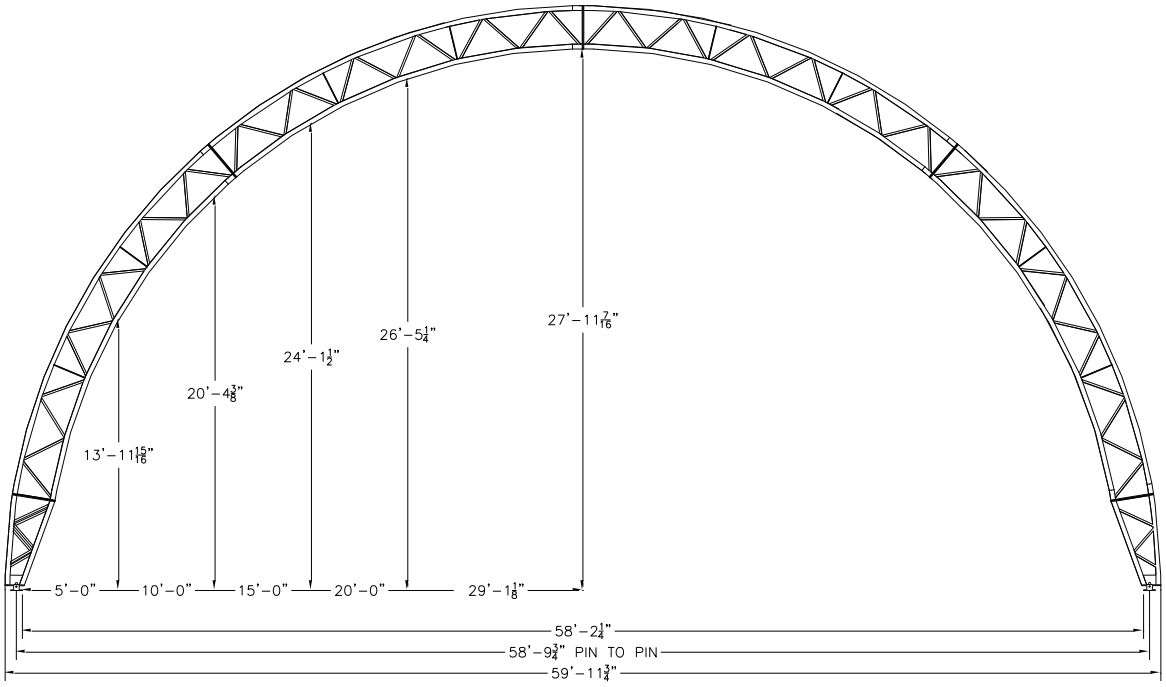
This is a picture of the slough mentioned in the narrative. This is over 620 feet from the fieldhouse. You can tell in picture that there isn't any high water marks above the bank of the slough from marks on the beams of the bridge. We have rot on the bridge from not treating the lumber, but no evidence of high water above the bank. Average water line marked in red. This line is approximately 4-5 lower than the elevation of the floor of the fieldhouse. Water hasn't gotten above the red line in the last 8 years due to fixing culverts and other watercourse corrections done in 2017.

Slough Picture #2

This is a picture of our slough within 250 feet of the banks of the Cowee Creek. This is a high tide and is as high as we have seen this slough at this location. When it has been this high here, it still is not above the red mark on the picture of the slough by the castle. This picture was taken when river was full of runoff couple with a high tide.

Cowee Creek
Diller Fieldhouse
Slough Picture #2
Slough Picture #1

60’ WIDE TRUSS BUILDING



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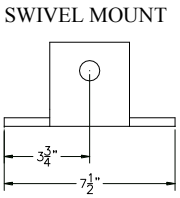

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END WALL SUPPORTS: Our standard uprights with tabs for customer supplied girts and skin.
HEADERS & DOORS: Door headers available. Fabric roll-up doors available.
RIDGE VENTS: 8X16 top vent holes, partial or entire length of building.
AWNING: 5ft awning greatly extends weather protection for buildings with feed-bunks or open sides.
SIDE CURTAINS: Roll-Up curtain to allow ventilation or wind protection. Electric curtain option available.

Attachment C - Photograph – Collapsed Gym

BUILDING PERMIT APPLICATION

Date Received: 6/22/88 Date Issued:

Process # 2839.01

CITY and BOROUGH of JUNEAU, ALASKA

Permit #

Project Address: ECHO RANCH BIBLE CAMP	City/Zip: 225	
Subdivision/USS: ECHO COVE BERNERS BAY USS 2425	Block/Tract:	Lot: 1
APN/File #: 3-B45-0-100-004-1	Dwelling Units: 4	# Bldgs.: 25
OWNER/S: G.M.U.	Contact Person: LEO WARKENTIN	
Mailing Address: PoBox 210608 auke Bay Ak. Zip 99821	Home Phone No.: 789 0460	Work Phone No.: 789 0460
CONTRACTOR: self	Contact Person:	
Mailing Address: same Zip	Phone No.	License No.
ARCHITECT: Chief Industries	Contact Person:	
Mailing Address: Zip	Phone No.	License No.
ENGINEER: Chandra P. Nangia for Building	Contact Person:	
Mailing Address: Peter Hildre for foundation Zip	Phone No.	License No.

CLASS OF WORK: [X] New [ ] Addition [ ] Remodel/Repair [ ] Demolition [ ] Other

BUILDING TYPE: [ ] Residential [X] Commercial [ ] Other

Is there a separate application for real property tax exemption [ ] Yes [X] No Located in flood plain area? [ ] Yes [X] No

Is the proposed work to be done on land which has been previously filled or is proposed to be filled? [ ] Yes [X] No

REMARKS/EXPLANATION OF WORK: 160 acre site. No other buildings, near this one. 60 x 120' = 7200 s.f.
indoor Rec. Building
All metal building
No heat
Elect. lighting w/ generator.

NOTE: If the work is on a landfill, in water, wetlands, or an intertidal area, a Corps of Engineers or other permits may be required.

I hereby certify that I have read and examined this application and know the same to be true and correct. All provisions of laws and ordinances governing this type of work will be compiled with whether specified herein or not. The granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction.

Signature of Owner, Contractor, or Authorized Agent: X Leo Warkentin

Date: 6/22/88

BUILDINGS

Occupancy Class: A-3 2.1 Type of Construction: V-N

FCC Code: 437 Permit Classification: BU

Occup.	Sq. Ft.	@ Rate	= Valuation
A-3 2.1	x 7200	$20/s.f.	144,000
No. of Stories: 1		No. of Bedrooms: 0	

BUILDING PERMIT FEES

Est. Plan Review:	$ 434.36
Check No:	Receipt No:
Building Permit Fee	$ 668.25
Actual Plan Review:	$
Grading Fee:	$
Total Building Permit Fee:	$
Radio Fire Alarm Fee:	$

ENGINEERING FEES:

Water Fee	$
Inspection Fee	$
Sewer Assessment	$
Permit Fee	$
Bond	$
TOTAL RECEIVED	$ 1,102.61
Check No. # 1097	Receipt No. 04545

Zoning

Zone:
Frontage:
Depth:
Parking:
Setbacks:
Front: Rear:
Left: Right:
Conditions: SUBSEQUENT MASTER PLAN APPROVAL REQ'D. G.L.W.R

Engineering/Public Works

City Water:
Size:
Yoke Rec'd Metered:
Fire Line:
City Sewer:
Driveway Bond:
On-site Water-
ADEC Approval
On-Site Sewer-
ADEC Approval:

Authorizations (Init. & Date)

Arch./S: C. Funk 7-18-88
Mech./Pl: N/A
Elec:
Fire: cf per conversation with Wilson.
Zoning: [illegible] 7/21/88
Eng: JM 7/13/88
Other:

Approved for Issuance:
C. Funk
Signature
7-25-88
Date

REMARKS: ~~Foundation Value = $16,000~~ EARLY START NOT USED. cf 7-18-88
~~Early Start Fee = 100% of B.P. for $16,000 = $143.75~~
Occupancy to be posted "Not to Exceed 250 Persons."
DRAINAGE TO BE AWAY FROM FOUNDATION
Revised structural calcs to be received prior to framing. cf 7-18-88
Special inspection proposal req'd. prior to framing cf 7-25-88

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

BUILDING PERMIT

Your special attention is called to the following:

This permit is granted on the express conditions that the construction shall, in all respects, conform to the ordinances of the City and Borough of Juneau. It may be revoked at any time upon violation of any provisions of said ordinances.

The granting of this permit does not authorize the violation of the provisions of any federal, state, or local law regulating construction nor the violation of the terms of any deed or covenant or any zoning or other regulations.

The permit issued must be attached to the approved drawings which should be available on site at all times while the construction is in progress.

This permit becomes null and void if work or construction authorized is not commenced within 180 days or if work or construction is suspended or abandoned for a period of 180 days at any time after work is commenced.

Inspections can be arranged by telephoning 586-1703 or by written notification. Work shall not proceed until the inspector has approved the various stages of construction.

JOB ADDRESS	RECEIPT #	DATE	PROJECT #
		07/25/88	BLD-0283901
USE OF PERMIT: INDOOR REC. BUILDING			

OWNER		
ADDRESS		
CITY	ST	ZIP
APPLICANT		
CONTRACTOR		
ADDRESS		
CITY	ST	ZIP
PH	STATE LIC.	CITY LIC.
ARCH/ENGINEER		
ADDRESS		
CITY	ST	ZIP

TRACT #	LOT #	APN		
TRACT NAME		MODULE #	CENSUS TRACT	
ZONE	SETBACKS FRONT	LEFT	RIGHT	REAR
COUNTER APPROVAL	PAYMENT FORM	TOTAL FEE		

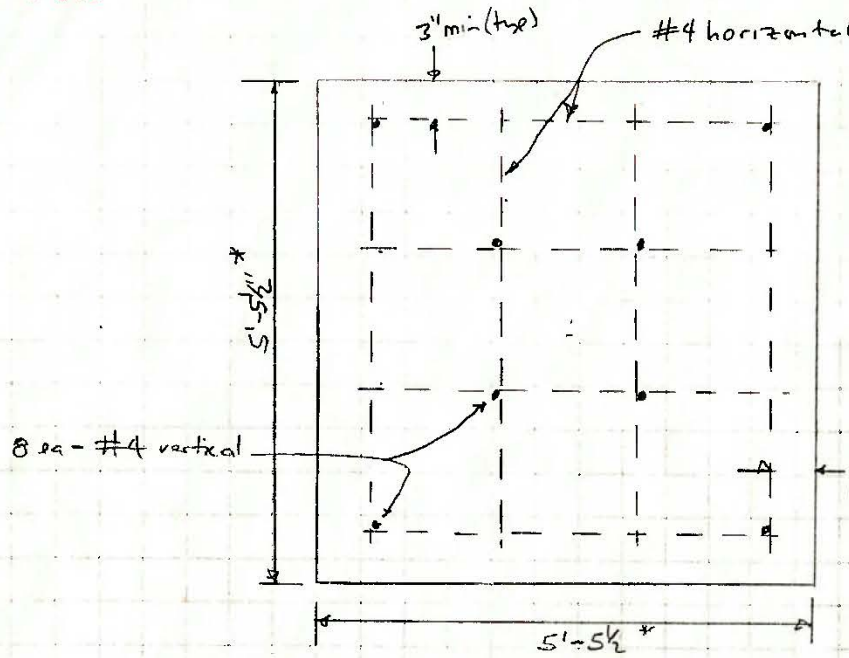
Special inspector is Pete Hildre, per phone call w/ Trent at site, 9-14-88 (SG)

TONER-NORDLING & ASSOCIATES, INC.

2221 North Jordan Avenue
JUNEAU, ALASKA 99801

JOB Echo Ranch Bible Camp
SHEET NO. 1 OF 1
CALCULATED BY RH DATE 5/5/88
CHECKED BY DATE
SCALE N.T.S.

concrete mix?

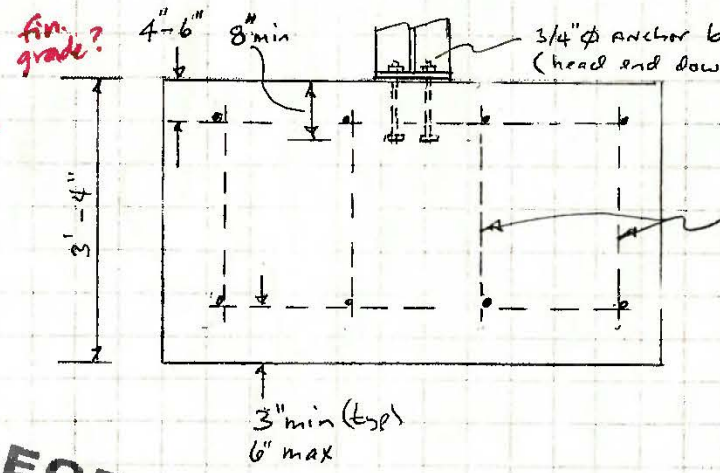


PLAN VIEW

* These dimensions may be varied but plan area shall equal or exceed 29.8 sf

Total concrete volume min = 99.3 cf = 3.68 cy

fin. grade?

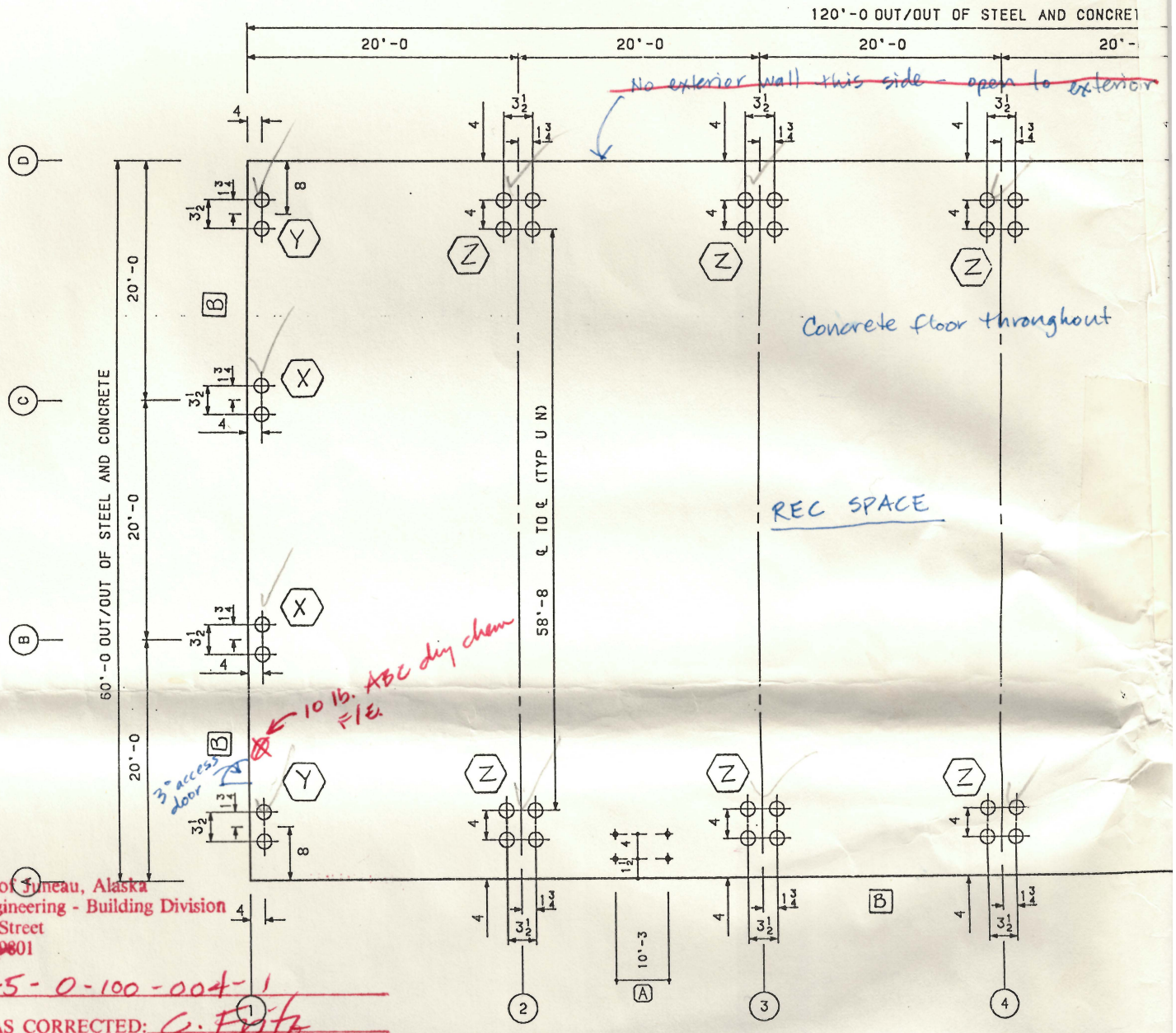


32" burial for frost depth.

ELEVATION VIEW

RECEIVED
ENGINEERING DEPT.
JUN 22 1988
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

STATE OF ALASKA
49TH
Peter L. Hildre
No. 4006-E
REGISTERED PROFESSIONAL ENGINEER



City and Borough of Juneau, Alaska
Department of Engineering - Building Division
155 South Seward Street
Juneau, Alaska 99801

FILE NO: 3-B45-0-100-004-1

☒ APPROVED AS CORRECTED: C. Fitz

☐ REVISE AND RESUBMIT: _____

DATE: 7-18-88

This is not a building permit and does not serve as any type of warranty or guarantee of adequate design or construction. This plan check is only for the purpose of reviewing plan compliance with the applicable provisions of building, electrical, plumbing and mechanical codes under Title 19 of the code of the City and Borough of Juneau. Plan approved is not a bar to the enforcement by the City and Borough of any of its ordinances and regulations as they may exist from time to time, nor is it authority or approval to violate any provisions of Title 19 of the code of the City and Borough of Juneau or any applicable federal, state or local laws and requirements, including the provisions of the zoning and fire codes, whether or not the provisions are cited or referenced on these plans.

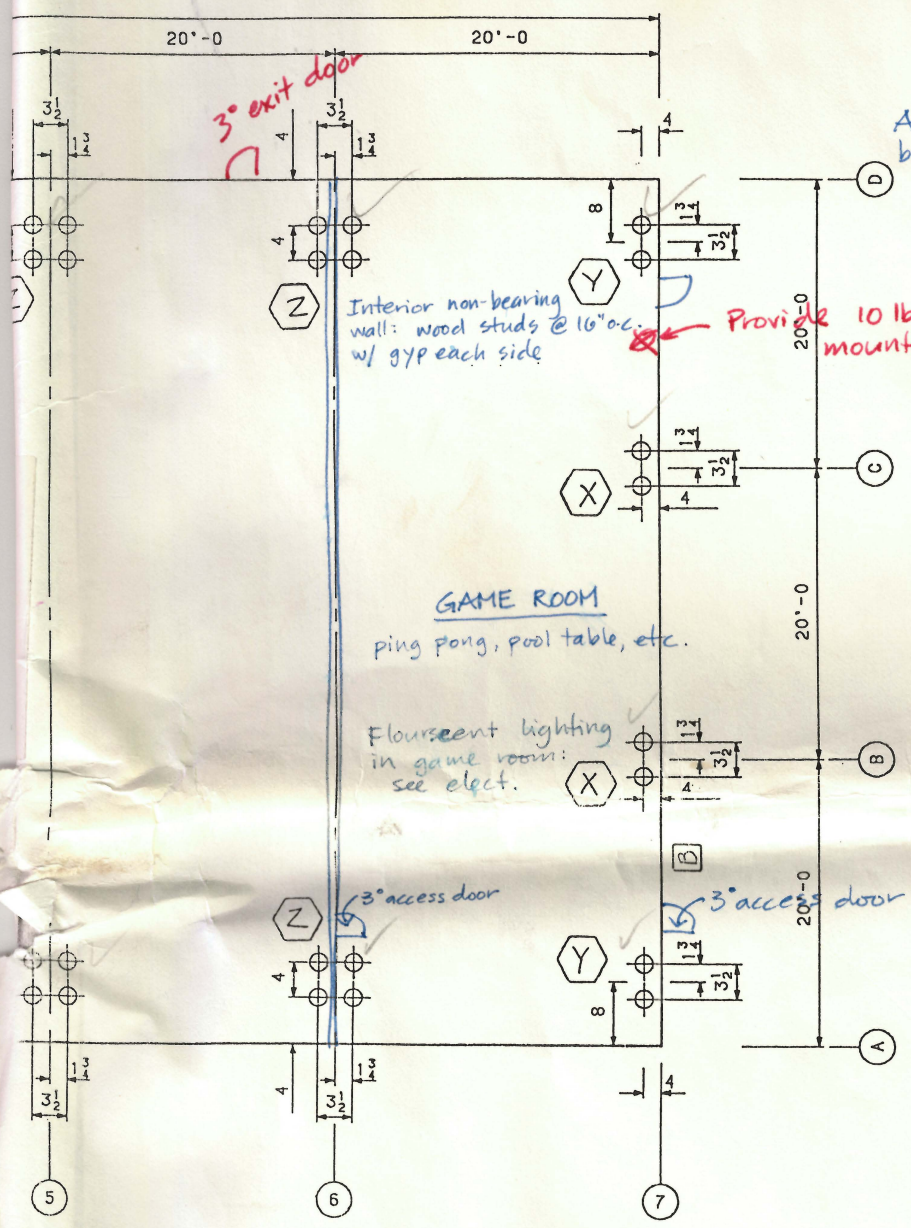
REFERENCE NOTES

1. COLUMN FOOTINGS AND PIERS MUST BE DESIGNED TO WITHSTAND HORIZONTAL AND VERTICAL REACTIONS AS SHOWN ON THE ANCHOR BOLT PLAN. CHIEF INDUSTRIES IS NOT RESPONSIBLE FOR DESIGN OF CONCRETE FOUNDATION. CHIEF INDUSTRIES RECOMMENDS THAT THE SERVICES OF A A QUALIFIED DESIGN ENGINEER IS OBTAINED BY THE CONTRACTOR/BUILDER TO DESIGN THE FOUNDATIONS FOR THE INDICATED REACTIONS. ENDWALL POST REACTIONS NOT SHOWN, SHALL BE DETERMINED FROM THE SPECIFIED LIVE LOAD, WIND LOAD, SEISMIC LOAD AND ANY OTHER APPLICABLE AUXILIARY LOADS.
2. CONCRETE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CONCRETE SQUARE, LEVEL, AND ACCORDING TO THE ANCHOR BOLT SETTING PLAN.
3. ALL ANCHOR BOLTS INCLUDING NUTS AND WASHERS FOR SAME ARE NOT FURNISHED BY CHIEF.
4. ANCHOR BOLT MATERIAL SHALL CONFORM TO ASTM A307 OR EQUAL.
5. REACTIONS ARE GIVEN IN KIPS. (1 KIP = 1000 LBS)
6. ALL ELEVATION DIMENSIONS ARE TAKEN FROM BOTTOM OF FRAME COLUMN BASE PLATE. BASE OF COLUMN IS AT ELEVATION 100'-0".
7. BOLT PROJECTIONS ARE RECOMMENDED MINIMUMS BASED ON THE BASE PLATE BEARING DIRECTLY ON THE CONCRETE PIER. IF THE BASE PLATE IS TO BEAR ON GROUT, THE BOLT PROJECTION MUST BE INCREASED ACCORDINGLY.
8. ANCHOR BOLT DESIGN IS BASED ON SHEAR, TENSION, AND COMBINED TENSION AND SHEAR. CHIEF INDUSTRIES, INC. IS NOT RESPONSIBLE FOR ANCHOR BOLT SIZE RECOMMENDATIONS WHEN THE ANCHOR BOLT CONFIGURATION PLACES THE BOLTS IN A BENDING MODE. WHEN THE COLUMN BASE PLATE BEARS ON GROUT, THE CONTRACTOR/BUILDER OR FOUNDATION ENGINEER SHALL INVESTIGATE BENDING IN THE ANCHOR BOLTS AND PROVIDE A SHEAR KEY FOR THE COLUMN BASE TO THE PIER WHEN THE ANCHOR BOLTS ARE NOT ADEQUATE IN BENDING ABOUT THE PIER.
9. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE MARKED.
10. ALL DRAWINGS ARE NOT TO SCALE.

ACCESSORY SCHEDULE		
MARK	QUAN	DESCRIPTION
A	1	10 x 10 FRAME OPENING
B	4	3070 WALK DOORS

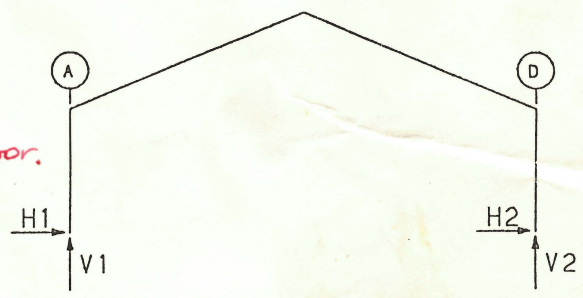
Type V-N
Occ: A 2.1

Area: 6000 sf ÷ 15 sf/occ = 400
1200 sf ÷ 50 = 24
POST MAX. OCCUPANCY 200



All doors to swing toward building exterior.

FRAME COLUMN LINES 2 - 6



LOAD CONDITION	V1	H1	V2	H2
DEAD + LIVE LOAD	26.0	14.0	26.0	-14.0
DL + WLL	-13.5	-13.7	-10.2	0.3
DL + 1/2LL + WLL	-1.5	-7.1	1.8	-6.3
DL + 1/2WLL + LL	18.3	6.7	19.9	-13.4
DL + WLR	-10.2	-0.3	-13.5	13.7
DL + 1/2LL + WLR	1.8	6.3	-1.5	7.1
DL + 1/2WLR + LL	19.9	13.4	18.3	-6.7

Live load: Snow = 40 L.L.
Wind =

Seismic: Zone 2

RECEIVED
ENGINEERING DEPT.
JUN 22 1988
AM 7|8|9|10|11|12|1|2|3|4|5|6 PM

- Electrical in Game Room only
- No plumbing or heating (Building to be used summer only)
- Handicap access to game room (max door threshold = ½").
- Natural light & ventilation req'd. in Rec space equal to ⅒th of ~~floor~~ area for light, ½0th for vent.
- Provide exit signs on all doors.
- Occupancy to be posted to max 250.

TO BE USED FOR CONSTRUCTION

Houston, TX
sub consultant to Chief Ind.

Bob Holt:
419-358-6906

Scott Baldwi
(308) 382-882
Nebraska

ANCHOR BOLTS (BY OTHERS)			
SYMBOL	QUAN	SIZE	PROJ
✦	20	0½ ø	1½
⊕	56	0¾ ø	2

ANCHOR BOLT SETTING PLAN
REICHENBACH LUMBER /ECHO RANCH BIBLE CAM
AUKE BAY, AK
RF 60X120X16 40/100 MPH 5/12 20' BAYS

CHIEF INDUSTRIES, INC.

DRAWN	CHECK	BUILDING NO.	
DEB M.	JHN	C037982	1
1-19-88	1/20/88		

Exposure C

received 8-3-88
cf

PETER HILDRE
RONALD KING
CONSULTING ENGINEERS
& SURVEYORS
(907) 789-3533

TONER-NORDLING & ASSOCIATES, INC.
2221 NORTH JORDAN AVENUE
JUNEAU, ALASKA 99801

July 26, 1988

City and Borough of Juneau
Building Department
Attn: Ms. Cathy Fritz
155 South Seward St.
Juneau, Alaska 99801

RE: Echo Ranch Bible Camp Multipurpose Building Construction

Dear Cathy:

This letter is to confirm that I will verify that the bolt installation for the proposed multipurpose building to be located at the Echo Ranch Bible Camp facility satisfies the requirements under Section 306, Part 5, High-Strength Bolting, of the current edition of the Uniform Building Code.

The structural steel frame members will be inspected to verify conformance to plans and specifications with regard to the surfaces to be bolted. Bolts and nuts will be inspected to verify that bolt type conforms to the plans and specifications.

Upon completion of the structure erection, I will verify that the minimum specified bolt tension is met for 10% of the bolts for each type of connection.

Very Truly Yours,

P.O. Hildre

Peter Hildre

proposal approved.
8/3/88
-cf

Case No: BLD-0283901

JUNEAU PERMIT CENTER

PERMIT HISTORY

Project Description
INDOOR REC. BUILDING/ALL METAL BUILDING
Address: 40001 GLACIER HWY
Parcel No: 3B4501000041
Issued On: 07/25/1988
Applicant: LEO WARKENTIN

This Inspection: 7/28/21 Time:Anytime
Inspection: B-Building Final

CONDITIONS / HOLDS for: BLD-0283901

* N-Occupancy to be posted "Not to exceed 250 persons"-

PREVIOUS INSPECTIONS for: BLD-0283901

B-Framing	SARA BOESSER	03/31/1989	Correction Required

NOTES: Inspection Not Called-In (Meeting) 2)Re adding more doors to meet ventilation requ's :this is OK; Re proposal for type windows:Engin'r to decide,

B-Framing	SARA BOESSER	03/31/1989	Correction Required

NOTES: Inspection Not Called-In (mting, cont) 3 cont:Egineer to address if glazing to be safety?;4)Eng'r address frameout for windows.

B-Framing	SARA BOESSER	03/31/1989	Correction Required

NOTES: Inspection Not Called-In In-office meeting w/ Leo & Dean: 1)Re inter wall proposal, Need aK engineer to detail approved changes; 2) cont.

B-Framing	SARA BOESSER	04/11/1989	Partial

NOTES: Inspection Not Called-In Met w/ Engineer Pete Hildre. He inspected steel erection & tested bolts. Also OK'd concrete.He's special insp, this job

B-Framing	SARA BOESSER	04/11/1989	Correction Required

NOTES: Inspection Not Called-In Pete Hildre came in to discuss the 3-31-89 items. He'll draw up specs.Sees no prob w/ wood walls flexibly attched.

B-Building Final	JEFF HEDGES	07/28/2021	N/A

Project complete 32 years ago. Ok to close per Building Official

INSPECTION SUMMARY for: BLD-0283901

Code	Description	Results	By	Last Inspection
B-Framing		Correction Requ	SARA BOESSI	04/11/1989
B-Building Final		N/A	JEFF HEDGES	07/28/2021

OTHER OPEN PERMITS for: 3B4501000041

BLD20130722	Issued	Platform and 8' x 12' commercial freezer/cooler room.
BLD20160083	Issued	New church for Echo Ranch
BLD20190295	Issued	New single family residence - building 2 05/24/2021 Modified for structural changes.
BLD20200185	Issued	Interior remodel to create two new bathrooms
BLD20200219	Issued	Construct new modular bath house
BLD20240240	Issued	New single family residence, west side
BLD20240243	Review	New single family residence, east side

The Online Building Inspection Request Form is at: www.juneau.org/permits/insp_req.htm or call 586-1703.

#2839.01 (E)

INSPECTION REPORT

CITY AND BOROUGH OF JUNEAU BUILDING DEPARTMENT
ONE SEALASKA PLAZA
JUNEAU, ALASKA 99801
586-5231

DATE 3-31-89
TIME pm

TYPE OF INSPECTION

- ☐ FOOTING
- ☐ STEM WALLS
- ☐ SLAB
- ☐ UNDERSLAB (PLUMBING/ELECTRICAL)
- ☐ TEMPORARY POWER
- ☐ FRAME
- ☐ ELECTRICAL
- ☐ PLUMBING
- FIREPLACE (MASONRY REINFORCE)
- ☐ PERMANENT POWER
- ☐ FINAL
- ☒ information

OWNER Echo Ranch (Leo Workentin or Dean Diller)

P. 1 of 2

ADDRESS

LEGAL DESC. 3-B45-0-100-004-1

(1) Regarding proposal to woodframe + sheetrock perimeter walls:

● Need engineer's approval + details (stamped by Alaska engineer) regarding this change. Wood framing makes this building more rigid than originally designed. Engineer to verify approved changes.

(2) Regarding adding more doors to meet ventilation requirements? This is OK.

(3) Regarding proposal for windows to not be safety glass, but to have fencing protection:

Engineer to address this too. Wind load, method of installation, & and (cont).

☐ CALL FOR REINSPECTION BEFORE CONCEALMENT

INSPECTOR SS per discussion/CF

☐ CORRECTIONS OR ITEMS NOTED ABOVE WILL BE REINSPECTED AT TIME OF NEXT CONSECUTIVE INSPECTION.

ALASKA LITHO, INC.

INSPECTION REPORT

CITY AND BOROUGH OF JUNEAU BUILDING DEPARTMENT
ONE SEALASKA PLAZA
JUNEAU, ALASKA 99801
586-5231

DATE 3-31-89
TIME pm

TYPE OF INSPECTION

- ☐ FOOTING
- ☐ STEM WALLS
- ☐ SLAB
- ☐ UNDERSLAB (PLUMBING/ELECTRICAL)
- ☐ TEMPORARY POWER
- ☐ FRAME
- ☐ ELECTRICAL
- ☐ PLUMBING
- FIREPLACE (MASONRY REINFORCE)
- ☐ PERMANENT POWER
- ☐ FINAL
- ☒ Information

OWNER Echo Ranch (Dean, Leo)

ADDRESS

P. 2 of 2

LEGAL DESC. 3-B45-10-102-004-1

Continued:

(3 cont) size of glass, etc, determine if it has to be safety glass or not. Fencing protection is approved in addition to correct glass.

(4) Regarding how to frame out for glazing:
Need engineer to address installation of frame outs & connections. (Note — welding or bolting needs special inspection similar to Pete Hildreth former inspections on the project.)

☐ CALL FOR REINSPECTION BEFORE CONCEALMENT

INSPECTOR SB per discussion w/ CF.

☐ CORRECTIONS OR ITEMS NOTED ABOVE WILL BE REINSPECTED AT TIME OF NEXT CONSECUTIVE INSPECTION.

ALASKA LITHO, INC.

INSPECTION REQUEST

Inspect On: 07/16/93 Called in On: 07/16/93 Inspector: SOS STEVE SHOWS

Project Number	Job Address	Cross Street
2839.01	ECHO RANCH	3-B45-0-100-004-1

Inspection: BU-99 Final # of Previous Inspections: None

Dispatch Comment:

Result: C Inspected by: SS Date: 7.16.93

Comment: Have (Builder) submit approved letter a structural frame for gymnasium (activity) Install handrail and guardrail on stair. Install smoke detector in all sleeping areas. Foam plastic ceiling insulation requires 15 minute thermal barrier. Install egress to outside from sleeping area.

* * * *

Michael A. Stevens, PE – AK 105621

STATE OF ALASKA 7/1/21 49TH MICHAEL ANTHONY STEVENS CE-105621 REGISTERED PROFESSIONAL ENGINEER

ANOTATED FIRM
ECHO RANCH LOMC

For Areas of Berner's Bay and Cowee Creek in the City and Borough of Juneau, Alaska

LEGEND

- Base Flood Elevation Contours
- Proposed Stream Centerlines

Proposed Special Flood Hazard Area

- Revised 1% Annual Exceedance Event Floodplain
- Proposed 0.2% Annual Exceedance Event Floodplain

600 0 600 1,200 1,800 ft

This information is provided for revisions to Map 0550D for the City and Borough of Juneau, Alaska, NFIP community Number 020009.

Elevation Data for this map is referenced to feet above Mean Lower Low Water Tidal Datum, with station control established by means of computing tidal datum.

This map is projected in the Alaska State Plane Zone 1 of the North American Datum 1983 (NAD83).

Topography for this map was provided by the 2013 City and Borough of Juneau LiDAR Survey performed by Watershed Sciences, Inc.

AD ≋ MARE
108 5TH AVE S UNIT 702, SEATTLE, WA 98104

Attachment G - LOMR Case No. 21-10-1193P – Annotated FIRM

City & Borough of Juneau, Alaska
155 Heritage Way Juneau, AK 99801

Plan NO.: ***FZE20260001***
Plan Type: **PL - Flood Zone Exception**
Work Classification: **FZE - Flood Zone - Exemption**
Plan Status: **Fees Paid**
Apply Date: **03/02/2026**
Expiration: **[None Listed]**

Location Address

40001 GLACIER HWY, JUNEAU, AK 99801

Parcel Number

3B4501000041

Contacts

Ryan Regier, Echo Ranch Bible Camp — **Applicant** 12000 Glacier Highway, Juneau, AK 99801-8593 (907) 789-3777 erbcmaint@avmi.org	Randy Alderfer, Echo Ranch Bible Camp - Director — **Other** (907) 789-3777 randy.alderfer@avmi.org
Echo Ranch — **Owner** 12000 Glacier Hwy, Juneau, AK 99801 (907) 789-3777 echoranchoffice@avmi.org	Gospel Missionary Union dba Avant Ministries, Echo Ranch Bible Camp — **Owner** (907) 789-3777 echoranch@avmi.org

Description: We are wanting to rebuild our gymnasium at Echo Ranch that collapsed this winter. The new building will go directly back on the slab of the old gym. The structure will be 60x120 and is partially in an AE zone and a V zone. This new building will be a multi-purpose building, for 5 months of the year it will be used for recreational purposes, the other 7 months it will be used as a storage building and for agricultural purposes as well.

Fees	Amount
Public Notice Sign Fee	50.00
Flood Zone Exception Fee	400.00
Public Notice Sign Deposit	100.00
Total:	**$550.00**

Payments	Amt Paid
Total Fees	**$550.00**
Credit Card	$550.00
Amount Due:	**$0.00**

Additional Information:

Note: *Only answered questions are listed below. For a full view of all application questions see Civic Access More Info Tab:*

https://cityandboroughofjuneauak-energovweb.tylerhost.net/apps/selfservice#/plan/ba459bae-ea89-41d9-9b8f-3c7f5988cf73?tab=moreinfo

Describe the Project: We are wanting to erect a 65' x 120' metal hoop structure covered with waterproof canvas affixed to rows of 2'x2'x6' concrete bin blocks to use for recreational and storage purposes. The building will be used for recreational and staging purposes for around 150 days a year and solely for storage pruposes the remainder of the year.
Base Flood Elevation: 22.63'
Elevation of Lowest Floor: Approximately 23'
structure floodproof elevation: Approximately 25'
Floodplain Insurance Rate Map Panel Number: 02110C0550D
FZE Narrative checklist: Availability of alternative locations, Certification that floodproofing meets standards, Elevation at lowest floor , Elevation structure(s) have been floodproofed , Exceptional hardship if not granted, Expected heights, velocity, duration, rate of rise, Extent that watercourse will be altered/relocated, How an exception will effect life and property, How proposed use relates to flood mgmt programs, How susceptible the proposed facility is to flood, How the proposed facility/use serves the public , If base flood elevation will change and why, If the facility/use requires a waterfront location, Maintenance plan for altered/relocated watercourse, Other applicable info outlined in CBJ 49.70.410(b), Proposed use compatibility with surrounding uses, Why a flood zone exception is needed

From: FMIXEmail2Case
To: Forrest Courtney
Subject: RE: Case No. 21-10-1089P to 21-10-1193P
Date: Thursday, March 27, 2025 11:30:32 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

We are responding as a representative of the Department of Homeland Security, Federal Emergency Management Agency (FEMA), to your email message.

Unfortunately, we were unable to find a completed Letter of Map Change using the LOMC case number you provided 21-10-1089P.

FEMA requested additional data for Case No. 21-10-1193P on 08/05/2021. Because we did not receive this data, we suspended our review of the application on 09/23/2022. When a case has been suspended, all review stops.

We hope this information has addressed the concerns raised in your email. If you need additional information or assistance, please reply to this message. You may also contact the FEMA Mapping and Insurance eXchange (FMIX) Customer Care Center by telephone, toll-free, at (877)336-2627, options 3 or 4, or by chat at http://www.floodmaps.fema.gov/fhm/fmx_main.html.

When responding to this e-mail (including any documents that may be attached in your return email), do not provide Sensitive Personal Identifiable Information (e.g., Social Security Number, date of birth, driver's license number, state ID number, passport number, alien registration number, financial account numbers, biometric identifiers, citizenship or immigration status, medical information, ethnic or religious affiliation, account passwords, criminal history, mother's maiden name).

---------- Original Message ----------
From: Forrest Courtney [forrest.courtney@juneau.gov]
Sent: 3/27/2025, 1:56 PM
To: fema-fmix@fema.dhs.gov
Subject: Case No. 21-10-1089P to 21-10-1193P

CAUTION: This email originated from outside of DHS. DO NOT click links or open attachments unless you recognize and/or trust the sender. Please select the Phish Alert Report button on the top right of your screen to report this email if it is unsolicited or suspicious in nature.

Good morning,

I was hoping to inquire about the status of the following case: Case No. 21-10-1089P to 21-10-1193P

Best,

Forrest Courtney | Senior Planner, Floodplain Manager

Community Development Department **?** City & Borough of Juneau, AK

Location: 230 S. Franklin Street **?** 4th Floor Marine View Building

Office: 907.586.0753 x4208

Fostering excellence in development for this generation and the next.

Gmail

Ryan Regier <ryan.regier@avmi.org>

FEMA and Echo Ranch

Teri Camery <Teri.Camery@juneau.gov> Mon, Feb 12, 2024 at 11:22 AM
To: Ryan Regier <ryan.regier@avmi.org>

Good morning Ryan,

I have Michael Steven's FEMA report with FEMA's tentative acceptance of a Base Flood Elevation of 22.63 feet. This is the number that CBJ will use as the "best available data" for the V flood zone for Echo Ranch.

Please submit a Development Permit Application and Floodplain Development Permit Application for the proposed units with the concrete-enforced piers that you described, with an Elevation Certificate that shows that the lowest horizontal member of the piers is at or above 22.63 feet. It sounds like you are well above that, so the review process should be straightforward.

Thanks very much for your patience.

Best wishes,

Teri Camery

Teri Camery | Senior Planner, CFM

Community Development Department | City & Borough of Juneau, AK

Location: 230 S. Franklin Street, 4th Floor Marine View Building

Mailing address: 155 Heritage Way Juneau, Alaska 99801

Office: 907.586.0753 extension 4129

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

From: Ryan Regier <ryan.regier@avmi.org>
Sent: Tuesday, February 6, 2024 1:29 PM

To: Teri Camery <Teri.Camery@juneau.gov>
Subject: FEMA and Echo Ranch

Teri, just wanting to check in if there has been any headway with the info about the FEMA floodplain and Michael's report. Let me know, thanks!

[Quoted text hidden]

From: Mike Stevens
To: Teri Camery
Cc: Ryan Regier
Subject: RE: Request for City and Borough of Juneau, AK (Case No. 21-10-1089P to 21-10-1193P) – Receipt Requested
Date: Thursday, January 18, 2024 1:40:23 PM
Attachments: E11E0E4CD57C49A0B4DB4A88C2EF05A2.png
image003.png

Teri,

Here's the latest report submitted to FEMA:
https://drive.google.com/file/d/1PxvkcrWHejuntzzTm3cVXfXiHdV2PQzS/view?usp=drive_link

And here's the latest draft revision of the report that includes FEMA's comments regarding the coastal modeling:
https://docs.google.com/document/d/1-D5LcVDPGq2v1OYY4CAo4HXfa2smpfih/edit?usp=drive_link&ouid=110417979036507994213&rtpof=true&sd=true

Please let me know if you have trouble accessing either.

FEMA recommended that we redo the stream modeling for Cowee Creek, and that this revised model should be submitted with the revised coastal models. They have tentatively signed off on the coastal analysis, which shows the flooding elevation at 22.63 feet.

Please let me know if you'd like to discuss this further.

Mike Stevens, PE
(484) 410-9220

From: Teri Camery
Sent: Wednesday, January 17, 2024 11:21 AM
To: Mike Stevens
Subject: RE: Request for City and Borough of Juneau, AK (Case No. 21-10-1089P to 21-10-1193P) – Receipt Requested

Hello Mike,

Echo Ranch is proposing new development. I understand that your study was not finalized, however I would like a copy of what you submitted to FEMA so we can use the best available Base Flood Elevation data for conformance with our flood regulations. Could you send that study to me please, or if you can't, could you let me know where/how I could chase it down from FEMA?

Thanks very much and I hope you're doing well!
Teri

Teri Camery | Senior Planner, CFM
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Mailing address: 155 Heritage Way Juneau, Alaska 99801
Office: 907.586.0753 extension 4129

From: Mike Stevens <michael.anthony.stevens@gmail.com>
Sent: Tuesday, September 7, 2021 12:45 PM
To: Eltayeb, Wael <wael.eltayeb@stantec.com>
Cc: Teri Camery <Teri.Camery@juneau.org>
Subject: RE: Request for City and Borough of Juneau, AK (Case No. 21-10-1089P to 21-10-1193P) – Receipt Requested

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Wael,

Sorry for the delay, wanted to prepare an in-depth response to the comments you and your team have prepared. In response:

1. New wave calculations have been prepared that use the appropriate slope calculations, and also include the static setup and runup. These will be included in the revised package, to be submitted shortly.
2. The wave calculations have been revised to combine stillwater elevations and runup, and not calculate separate distributions for each.
3. The GPD has been recalculated according to the guidance provided. The results will be submitted shortly.
4. Regarding the HEC-RAS model of Cowee Creek – There are many issues with modeling this creek using a 1-dimensional model. The stream bed is fairly unconsolidated and easily erodible material, and more resembles an alluvial fan than it does a typical stream bed. This can be confirmed by looking at the aerial imagery of the creek, which shows multiple braids in the channel as it extends from Glacier Hwy to its mouth. To model this stream as accurately as possible, a 2-dimensional flow model is absolutely necessary. However, this isn't allowed under current FEMA guidance.
    1. Adding further detail to the explanation: The northernmost channel of Cowee Creek is currently the main channel, and it is generally at a higher elevation than the southernmost channel. Given time, it can be expected that the main body of Cowee Creek will shift entirely from the northernmost to the southernmost channel.
    2. There are ways of setting up side channels within HEC-RAS, however this is simply inadequate to accurately represent the flow shown in Cowee Creek. There are many areas where banks overflow from the main channel to secondary channels, thus resulting in discontinuities in the resulting water surface elevations.
5. Contraction/expansion coefficients were adjusted to represent the contraction in flow area due to terrain, not due to structures. That said, these can be set to the default values.
6. Briefly,
    1. The multiple channels can be reduced to simply the main channel.
    2. I will submit a revised model/shapefiles that clear up these discrepancies.
    3. The 0.2-pct chance flood is shown on the submitted work map, though the areas may not be readily visible due to the similarities between the 0.2-pct chance and the 1-pct chance. I can submit additional workmaps that make this distinction more obvious. Also, shapefiles will
    4. I will submit a revised model/shapefiles that clear up these discrepancies.
7. I have documentation that the individual legal notices were mailed out, and scanned copies of the return slips will be provided in the revised package.

In the meantime, I would appreciate guidance on how to proceed with the Cowee Creek study. It is my belief that

this stream would best be modeled using a 2-D flow analysis, but can re-attempt to provide a 1-D analysis should this be decided to be unworkable.

Thank you for your time,

Michael A. Stevens, PE
Ad Mare, LLC

From: Eltayeb, Wael
Sent: Saturday, July 31, 2021 8:49 AM
To: Michael.anthony.stevens@gmail.com
Cc: Teri.camery@juneau.org
Subject: RE: Request for City and Borough of Juneau, AK (Case No. 21-10-1089P to 21-10-1193P) – Receipt Requested

Dear Mr. Stevens,

In our acknowledgement email sent on July 15, 2021, the case number has been inadvertently assigned to your request was 21-10-1089P. **Now, the case number assigned to your request is 21-10-1193P,** and the project identifier is Echo Ranch LOMC. This e-mail is being sent to officially acknowledge the change of your case number and replaces the email acknowledgement previously sent by me. If you have a question regarding this case, please refers to above mentioned case number.

We are reviewing your submitted data and will contact you if additional information is required to process your request. If additional information is not required, we will issue a final letter of determination within 90 days of submitting your request.

Thank you,

Wael Eltayeb, PE
Project Engineer
Water Resource Engineering

STARR II Strategic Alliance for Risk Reduction

Direct: +1(301) 982-2806

www.STARR-Team.com | **Wael.Eltayeb@Stantec.com**

From: Eltayeb, Wael
Sent: Thursday, July 15, 2021 5:18 PM
To: Michael.anthony.stevens@gmail.com
Cc: Teri.camery@juneau.org
Subject: Request for City and Borough of Juneau, AK (Case No. 21-10-1089P) – Receipt Requested

Dear Mr. Stevens:

We have received your request that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a revision to the flood hazard information on the applicable National Flood Insurance Program (NFIP) map for City and Borough of Juneau, Alaska. This e-mail is being sent to officially acknowledge the receipt of your request and replaces the paper copy acknowledgement letters previously issued by FEMA. We ask that you please respond directly to this e-mail to verify that it has been received.

The case number assigned to your request is **21-10-1089P**, and the project identifier is **Echo Ranch LOMC**.

We are reviewing your submitted data and will contact you if additional information is required to process your request. If additional information is not required, we will issue a final letter of determination within 90 days of receiving your request.

If you have general questions about your request, FEMA policy, or the National Flood Insurance Program, please call the FEMA Mapping and Insurance eXchange (FMIX), toll free, at 1 877 FEMA MAP (1 877 336 2627). If you have specific questions concerning your request, the case reviewer's contact information is listed below, or please contact the Revisions Coordinator for your request, Ms. Sonal Kulkarni, at sonal.kulkarni@stantec.com or at (240)-542-3102.

Please be assured we will do our best to respond to all inquiries in a timely manner.

Thank you,

Wael Eltayeb, P.E.
Project Engineer, Water Resource Engineering

Direct: 301 982-2806
wael.eltayeb@stantec.com

Stantec

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Forrest Courtney

From: Khalid, Arslan <khalida2@cdmsmith.com>
Sent: Tuesday, February 17, 2026 3:37 PM
To: Forrest Courtney; Jill Lawhorne
Cc: Poburka, Henry W.
Subject: RE: Response to FMIX Case #260211 - 1568405- City and Borough of Juneau - Alaska

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Hi Forrest,

Thanks for sending the email to help understand the context for the two cases.

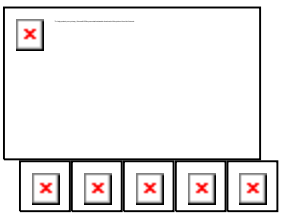
For the MT-1 case, I did get a chance to review the MT-1 technical guidance you cited, which highlights the inapplicability of MT-1 if the request involves changing the SFHA designation. To my understanding, typical MT-1 requests do not offer revisions to the SFHA (sub-zone types); they are normally submitted to demonstrate that the LAG is at or above the BFE. Please note that I am not an MT-1 expert, and FEMA encourages applicants to submit FMIX tickets for MT-1 inquiries so they can be connected with MT-1 experts in their region to address their questions. Please let me know if you see any issues with submitting an FMIX ticket for your CLOMA question. Generally, the process is the same as submitting an FMIX ticket as you did in this case, except that you would need to specify that the request is for MT-1s (CLOMAs, LOMAs). Otherwise, I can reach out to the FMIX point of contact for this ticket to see if a separate ticket can be opened for the CLOMA question.

For 21-10-1193P, I accessed the information available in our system and can confirm that I did not find any information indicating that the coastal analysis was tentatively approved or that any such correspondence was shared with the community or the applicant. Please note that for LOMR data to hold a regulatory status, it needs to go through an appeal period in cases where the LOMR offers changes to the Special Flood Hazard Areas (as this case proposed). Since this case was suspended due to additional data comments not being addressed, I do not see any reason to mark the coastal analysis as regulatory or FEMA-accepted data. As far as a new study is concerned, I do not see any ongoing FEMA-initiated studies in this area. We do not control community-level permitting, so I am not in a position to respond to that particular question as it is the community decision and we do not control permitting process, other than confirming that the LOMR-based coastal analysis is not a regulatory model in the FEMA library, as the LOMR was suspended.

Please let me know if you have any questions.

Thanks,

Arslan Khalid, CFM
Water Resources Engineer 4
CDM Smith, in collaboration with **Focus Revision Partners JV**
o: 617-452-6135
c: 571-867-7393



LOMC Retrieval Requests

Case Number	Eff. Date	Availability	Archival Drive	Redacted	
21-10-1193P		Available but not Included	Submittal	Yes	This LOMR is Suspended and cannot be shared
22-10-0713A	8/31/2022	Included in delivery	Submittal	Yes	
24-10-0401A	4/25/2024	Included in delivery	Submittal	Yes	

To:	**Juneau Hydropower Inc** **Duff Mitchell** **duff.mitchell@juneauhydro.com**	Date: Job:	**2-9-2026** **18-16 Echo Ranch**

Subject: **Base Flood Elevation Assessment, Echo Ranch Bible Camp Area**

MEMORANDUM

Mr Mitchell,
You have requested that I provide an engineering assessment of the reasonable Base Flood Elevation determination for the Echo Ranch Area, which is situated along Cowee Creek and is Tidally influenced by Berners Bay, Juneau, Alaska. This area is shown on FEMA FIRM #02110C0550. The FEMA floodplain zones are Zone V (coastal) and Zone A (along Cowee Creek) both of which there are no Base Flood Elevations established by FEMA.

A Base Flood Elevation is a flood elevation level that has a one percent chance of being equaled or exceeded in any given year. This regulatory standard is commonly referred to the "100-year flood."

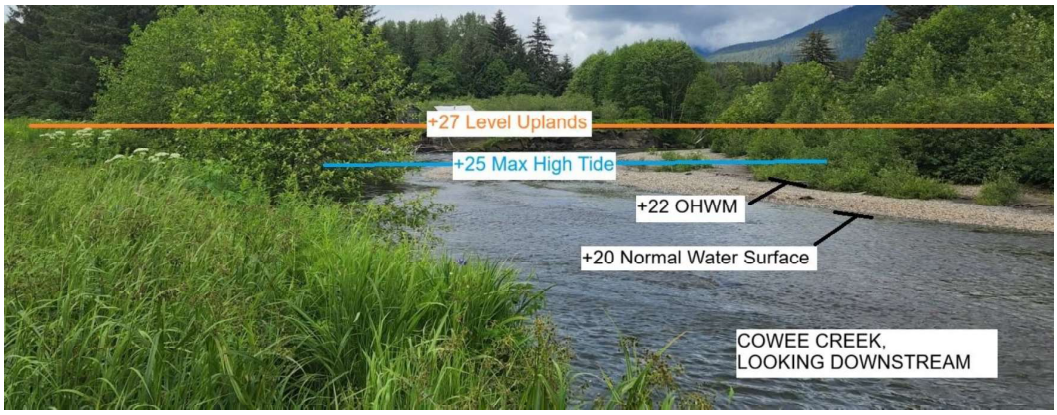
City and Borough of Juneau (CBJ) is the FEMA Floodplain Adminstrator of FEMA Community #020009. CBJ Code §49.70.400(g)(5)(C) specifies:

> *"In zones A and V, where elevation data are not available through the flood insurance study or from another authoritative source, applications for floodplain development permit shall be reviewed to ensure that proposed construction will be **reasonably safe from flooding**. The test of reasonableness is a local judgment and may be based on historical data, high water marks, photographs of past flooding, and other similar or relevant data"*

To analyze weather or not the proposed improvements are "reasonably safe from flooding" and to establish a reasonable Base Flood Elevation for the project area, I have evaluated Cowee Creek high water marks, lidar data, NOAA tidal data. The results of this evaluation is as follows:

The most controlling factor in and near Berners Bay for flooding is Maximum Tide Elevation (MTE) of the area, which has an elevation of +25 MLLW (reference NOAA Station 9452210). This is the highest measured tidal elevation ever recorded in the Juneau area. This tidal maximum occurred in 1948.

The adjacent lands along Cowee Creek are on the southern end of the project would also be governed by Tidal, as the ordinary high water mark along the southern portion of Cowee Creek is lower than that +25 level. A typical photo of Cowee Creek is shown below. At the tidal maximum, Cowee Creek would temporarily reach that tidal level, and would rapidly retreat with the outgoing tide.



In the area of the photo, Cowee Creek is approximately 90 feet wide. At the uplands level shown, the entire level floodplain is approximately 1600 across. Thus it is not likely that the improvements would ever incur significant flooding, certainly none of significant velocity given that large level floodplain width.

Regardless any precise floodplain BFE, the proposed poles are located away from the banks of Cowee Creek and are designed and anchored to prevent flotation, collapse, and lateral movement; to resist hydrodynamic forces, debris impact. The proposed Switchyard Pad is <u>not</u> located in the flood plain and is further located above the +25 Max Tide Line, and will have a pad elevation of +27 or higher. The proposed development does not alter watercourses, does not obstruct floodplain function, does not increase flood heights, velocities, or flood hazards, and does not introduce unsafe or habitable development into the floodplain.
<u>There are no habitable structures proposed or anticipated.</u>

In sum, the proposed project will meet the "reasonably safe from flooding" standard required by CBJ, and for the area, it is safe. Furthermore, the maximum tide level of +25 MLLW, is a reasonable BFE to use in the area of this project and to list on FEMA permits.

Please contact me if you have any further questions.
Thanks, Max Schillinger, P.E., P.L.S. 2-9-2026

Echo Ranch Bible Camp
P.O. Box 210608
Auke Bay, AK 99821
789-3777(907)

Chapel Project Narrative

We are planning to build a new chapel building that will be used daily in the summer, and will be used to accommodate up to 120 people. This building will be replacing our current chapel building that has been on-site for 50+ years. The new building will be accommodating the same amount of people as the .previous chapel building
The Chapel will not be used for persons other than those staying at camp, and the amount of people coming to camp each year will not change because of this building. Traffic at the Echo Cove Boat .Launch will not increase because of this building

The site is naturally landscaped and the location was chosen to utilize with both the immediate surroundings and to allow a view of the surrounding water and distant landscape. The location is .relatively isolated and any noise issues are unlikely

It is single story, post and beam styling, built on helical piers, with no running water in the building. There is an outhouse within 50ft of the building, and the community bathhouses are both within .200yards

.Electricity is generated on-site by a pair of gen-sets that is camp maintained

Electrical and audio visual wiring will be run in the building for interior use. There will be an entrance porch light on the south corner at the main entry facing the woods toward the camper cabins. There is .no other planned lighting on the exterior since this building is used during summer lighted conditions

.For heating, we are planning a pair of Toyo oil stoves for use when heat is necessary

.The wood used in the building will be rough cut lumber from our two sawmills on-site and air dried

.The roofing material will be sheet metal

.The site is facing Berners Bay toward the NorthWest. The soil type is sand

The flood zone requirements are met due to the location being above the FEMA flood zone of 27ft .BFE

The parking lot needs and accommodations will remain unchanged due to the busing of campers from .the intown Offices located next to the Auke Bay Bible Church

Attachment C

Additional Future Accommodations

We are currently in process of getting prints made for a pair of two bedroom cottages with a loft for staff family housing. They will have electricity and full bathrooms with laundry facilities, and a wood .stove for heating
Height will be below the 45ft limit from building grade. This will not increase our staff numbers, only move the families into a more private, healthy living space, from the current community living .buildings

We are currently in process of making plans for a bathhouse to accommodate temporary staff. This will be used for people that come for 1-2 weeks at a time as volunteers to the ministry. We currently have three cabins that they use for sleeping quarters, but are in need of a dedicated bathhouse for them. There will be 5 private individual restrooms with exterior entrances, and one laundry room. Each .restroom will have shower, stool, and sink, designed for use for one person at a time for each restroom

The capacity for this bathhouse will be for use of up to 20 people. It will be single story and below the height of 45ft limit from building grade. It will be located within 100ft of the temporary staff housing .that it will be servicing

All of these buildings will not increase Echo Cove boat launch traffic, or the amount of campers .coming to camp each year

The landscaping for these buildings will be naturally landscaped and location chosen to utilize the utilities immediately available and to allow privacy for the persons using the buildings while being .relatively close to other staff, and social gathering places

External lighting will be a porch light on each building, facing the approaching access paths for use in .the evenings during spring and fall

.Location is relatively isolated and any noise issues are unlikely

These buildings will be supplied with water from a shallow well system that currently provides water for the other staff housing in camp. These buildings will be supplied with electricity from a local .generator that we maintain, and it supplies the electricity to all other buildings in camp as well

The flood zone requirements are met due to the location being above the FEMA flood zone of 27ft . .BFE

5/7/2020

Case No: **BLD20200219**

Site Address: 40001 GLACIER HWY

Parcel No: 3B4501000041

Desc: Construct new modular bath house

Commercial ADD

FCC Code: 437

Type of Construction: VB

Sprinkler Substitute for Type A Construction: YES NO

Sprinkler System: FULL PARTIAL NONE Required: YES NO

Alarm System: FULL PARTIAL NONE Required: YES NO

Code Edition: _____ Code Review by: _____ Date: _____

New Dwelling Units: 0

Existing Dwelling Units: 0

Occupancy Class: _____

Valuation for Permit Fee Calculations:

S.F.	Type	Rate	Amount
336	Storage-Mini Warehouse	47.45	15,943.20
115	Utl & Misc-Decks	9.91	1,139.65
	Assembly-Auditorium	106.64	

Total Valuation: $17,082.85

LAND USE

ZONE/UNITS: RR /

WETLAND: N

FLOOD ELEV: 27.00

FIRM ZONE: V

FIRM MAP: 02110C 0550D

LOT SIZE: 6,788,390 SF / 155.8 ACRES

SETBACKS

Front: 25

Rear: 25

Side: 15

Other:

PARKING: 49.40.210(d)(2)

ANADROMOUS: Y on lot

EAGLES NEST: ?

Coverage: 10% Permissible/Conditional

HEIGHT: 45/45 Permissible/Accessory

VEGETATION: XX

HAZARD: N

ENGINEERING/PUB WORKS

Dwelling Units: _____

CITY WATER:

Permit #: _____

Use: _____

Assessment: _____

Service Size: _____

Line Size: _____

Meter Size: _____

CITY SEWER:

Permit #: _____

Use: _____

Assessment: _____

Fixture Units: _____

LAND USE PERMITS

ADR Case #: _____

PLAN REVIEW APPROVALS

		Initials	Date
__	Fire		
X	Zoning	JMG	5/19/2020
X	Engineering	MRM	N/A
__	Water		
__	Sewer		
__	Architectural	John Young	5/29/2020
__	Structural	John Young	5/29/2020
X	Plumbing	Steve Tibbetts	5-20-2020
X	Mechanical	Steve Tibbetts	5-20-2020
__	Electrical		
__	Access	John Young	NA
__	Spcl Insp Form		

APPROVED FOR ISSUANCE

Jon Stearns

Signature

7/21/2020

Date

PERMIT ISSUANCE FEES

__ Grading Plan Review Fee $_____

__ Adjusted Plan Review Fee $_____

__ Fast Track Fee $_____

__ Early Start Fee $_____

__ Building Permit Fee $_____

__ Water Assessment Fee $_____

__ Sewer Assessment Fee $_____

__ Sewer Inspection Fee $_____

__ Grading Permit Fee $_____

__ Driveway Permit Fee $_____

__ Bond for _____ $_____

__ Other _____ $_____

Total Issuance Fees $_____

PERMIT ISSUANCE PAYMENTS

Date	Receipt	Check	Amount
			$
			$
			$

Parcel Tags:

Echo Ranch 1973 permit 9284

Echo Ranch Dining Hall 1976

CONDITIONS AND HOLDS ON PERMIT: (Continued on back of sheet)

Proposed structure outside of V flood zone, see "Echo Ranch Bathouse Location, per Brett" in the file.

BUILDING PERMIT APPLICATION
TYPES OF INSPECTIONS

The Work Codes Contain standard inspections for the permit type. Circle additional inspections if required.

Work Codes
B-Building Safety Inspection
B-Commercial Addition
B-Demolition
B-Grading
B-Oil/Gas Piping
B-Porches/Decks/Carports
B-Reroof
B-Residential Electrical Service
B-Single Family Dwelling
E-ROW-Water & Sewer Service
E-ROW-Water Main
E-ROW-Driveway
E-ROW-Fire Line
E-ROW-Sewer Main
E-ROW-Sewer Main & Service
E-ROW-Sewer Service
E-ROW-Water Main & Service
E-ROW-Water Main & Sewer Main
E-ROW-Water Service
E-UTL-Sewer Main
E-UTL-Fire Line
E-UTL-Fire Line & Water Line
E-UTL-Fire Line & Water Main
E-UTL-OWTDS
E-UTL-Sewer Line
E-UTL-Pressure Sewer Line
E-UTL-Sewer Line w/ Decomm
E-UTL-Water Line
E-UTL-Water Main

Fire
F-Address and Required Signage
F-Alarm Panel/Transmitter
F-Alarm Zones
F-Blasting on Individual Lot
F-Childcare/Daycare Inspection
F-Commercial Dev Land Clearing
F-Courtesy Inspection
F-Emergency Lighting Test
F-Events in Mall Hallways
F-Explosive Shipment-Unest loc
F-FDC Location
F-Fire Extinguishers
F-Fire Final
F-Fire Hydrant Placement
F-Fire Related Inspection
F-Fixed Welding Inspection
F-Flammable/Combustible Material
F-Hazardous Material Storage
F-Kitchen Hood Suppression Test
F-Liquor Licence Renewal
F-Open Burning Inspection
F-Proper Sprinkler System Bracing
F-Roof/Tar Kettle Inspection
F-Special Event Structure
F-Sprinkler Head Placement
F-Sprinkler Hydrostatic Test
F-Subdivision Land Clearing
F-Subdivision/Road Blasting
F-System Acceptance Test
F-Temporary Welding Inspection
F-Underground Fire Line Flush

Building
B-Appliance/Chimney
B-Bonding
B-Building Final
B-Combustion Air
B-Commercial Hoods
B-Conduit & Raceway Systems
B-Cross Connection Control
B-Demo Electric Safed Off
B-Demo Excavation Filled
B-Demo Sewer/Water Capped
B-Demolition Final
B-Devices and Equipment
B-Elictrical Final
B-Bire Dampers/Sprinklers
B-Fire Separation/Rated Assemb.
B-Foundation, Forms, & Reinf Steel
B-Framing
B-Grounding
B-Heat Piping
B-Insulation/Vapor Barrier
B-Masonry
B-Mechanical Final
B-Meter Yoke
B-Meter Yoke with Meter
B-MH foundation
B-MH Utilities
B-Mobile Home Final
B-Plumbing Final
B-Oil & Gas Piping/Tanks
B-Rough Electrical
B-Rough Plumbing
B-Service/Panel
B-Setback Verification
B-Smoke/Carbon Monoxide Detec
B-Special Inspection
B-Specialty Piping
B-Temporary Power
B-Under Slab Utilities
B-Ventilation,Plenums & Ducts
B-Vents (Bath, Dryer, Kitchen, etc.)
B-Yellow Tag Electrical
B-Zoning Final

Engineering
E-Access to Curb Stop Valve
E-ADEC on-site Sewer Final
E-ADEC on-site Water Main Final
E-Asbuilt Survey Required
E-Bacteriological Test
E-Bedding / Backfill
E-Billing Authorization
E-Blasting Verification
E-Bore Flush
E-CBJ Waste Water Department
E-CBJ Water Department
E-Chlorination Test
E-Cleanouts
E-Continuity
E-Cross Connection Control
E-Culvert
E-Curb Box
E-Curb Cut Final
E-Curb Cut Reinforcement
E-Curb Stop
E-Depth
E-Electrical Utility
E-Final
E-Fire Hydrants
E-Fire Line Final
E-General Engineering Final
E-Grade
E-Grading/Drainage
E-Headwalls
E-Installation of Access & Ports
E-Installation of Insulation
E-Location Manhole Tap
E-Manholes - Sewer Main
E-Material
E-OWTDS Inspection

Enforcement
ENF - Enforcement Status Check

eng-cont.
E-Pressure Test
E-Pump Ticket
E-Residual / Free Chlorine
E-Retaining Walls
E-ROW -Final
E-ROW Restoporation
E-Septic Decomission
E-Sewer Connectgion
E-Sewer Disconnect
E-Sewer Final
E-Sewer Main Final
E-Sewer Service Tap
E-Sewer System
E-Sidewalk Final
E-Sidewalk Reinforcement
E-Size
E-Soil
E-State D.O.T. Approval
E-Storm Drains
E-Street Patch
E-Streets
E-Telephone Utility
E-Thaw Waiver
E-Thaw Wire
E-Thrust Blocks
E-Turn Water OFF
E-Turn Water ON
E-TV Cable
E-Utility Ribbon
E-Utility Trench
E-Water Final Water Meter Required
E-Water Meter/Yoke
E-Water Service Tap
E-Water System
E-Water Tap
E-Width

Miscellaneous
M-Site Visit

Additional Notes and Holds

Foundations in Coastal Areas

Purpose: *To describe foundation types suitable for coastal environments.*

Key Issues

- Foundations in coastal areas should elevate buildings above the Design Flood Elevation (DFE) in accordance with ASCE 24-05, while withstanding flood forces, high winds, scour and erosion, and floating debris in ASCE 7-10.
- Foundations used for inland construction are generally not suitable for coastal construction. Some examples of foundation systems that have a history of poor performance in erosion prone areas are slab-on-ground, spread footings, and mat (or raft) foundations.
- Deeply embedded pile or column foundations are required for V Zone construction. In A Zones they are recommended instead of solid wall, crawlspace, slab, or other shallow foundations, which are more susceptible to scour. (For the reference of this document, the term deeply embedded means "sufficient penetration into the ground to accommodate storm-induced scour and erosion and to resist all design vertical and lateral loads without structural damage.")
- Areas below elevated buildings in V Zones must be "free of obstructions" that can transfer flood loads to the foundation and building (see Fact Sheet No. 8.1, Enclosures and Breakaway Walls). Areas below elevated buildings in A Zones should follow the same recommended principles as those areas for buildings located in V Zones.

Figure 1. Near collapse due to insufficient pile embedment in Dauphin Island, Alabama.

(SOURCE: FEMA 549, HURRICANE KATRINA IN THE GULF COAST)

Foundation Design Criteria

All foundations for buildings in flood hazard areas must be constructed with flood-damage-resistant materials (see Fact Sheet No. 1.7, Coastal Building Materials). In addition to meeting the requirements for conventional construction, these foundations must: (1) elevate the building above the Base Flood Elevation (BFE), and (2) prevent flotation, collapse, and lateral movement of the building, resulting from loads and conditions during the design flood event (in coastal areas, these loads and conditions include inundation by fast-moving water, breaking waves, floating debris, erosion, and high winds).

Because the most hazardous coastal areas are subject to erosion, scour, and extreme flood loads, ***the only practical way to perform these two functions is to elevate a building on a deeply embedded and "open" (i.e., pile or column) foundation.*** This approach resists storm-induced erosion and scour, and it minimizes the foundation surface area subject to lateral flood loads.

ASCE 24-05 is recommended as a best practice for flood resistance design and construction, especially in V Zones and Coastal A Zones. This standard has specific information on foundation requirements for Coastal High Hazard Areas and Coastal A Zones and it has stricter requirements than the NFIP. Elevation on open foundations is required by the National Flood Insurance Program (NFIP) in V Zones (even when the ground elevation lies above the BFE) and is strongly recommended for Coastal A Zones. Some states and communities have formally adopted open foundation requirements for Coastal A Zone construction.

While using the approach of elevation of structures on pile foundations improves performance and

minimizes some effects, even a deeply embedded open pile foundation will not prevent eventual undermining and loss due to long-term erosion (see Fact Sheet No. 2.2, *Selecting a Lot and Siting the Building*).

Performance of Various Foundation Types in Coastal Areas

There are many ways to elevate buildings above the BFE: fill, slab-on-grade, crawlspace, stemwall, solid wall, pier (column), and pile. Not all of these are suitable for coastal areas. In fact, several of them are prohibited in V Zones and are not recommended for A Zone construction in coastal areas (see Fact Sheet 1.2, *Summary of Coastal Construction Requirements and Recommendations for Flood Effects*).

Pile: Pile foundations are recommended for V Zones and Coastal A Zones. These open foundations are constructed with square or round, wood, concrete, or steel piles, driven or jetted into the ground, or set into augered holes. Critical aspects of a pile foundation include the pile size, installation method and embedment depth, bracing, and the connections to the elevated structure (see Fact Sheets Nos. 3.2, *Pile Installation* and 3.3, *Wood-Pile-to-Beam Connections*). Pile foundations with inadequate embedment will lead to building collapse. Inadequately sized piles are vulnerable to breakage by waves and debris.

Fill: Using fill as a means of providing structural support to buildings in V Zones is prohibited because it is susceptible to erosion. Also, fill must not be used as a means of elevating buildings in any other coastal area subject to erosion, waves, or fast-moving water. However, minor quantities of fill are permitted for landscaping, site grading (not related to structural support of the building), drainage around and under buildings, and for the support of parking slabs, pool decks, patios and walkways (2009 IRC Section R322.3.2). These guidelines are consistent with NFIP Technical Bulletin 5, *Free-of-Obstruction Requirements for Buildings Located in Coastal High Hazard Areas* (08/08), which states: "Fill must not prevent the free passage of floodwaters and waves beneath elevated buildings. Fill must not divert floodwaters or deflect waves such that increased damage is sustained by adjacent or nearby buildings."

Slab-on-Grade: Slab-on-grade foundations are also susceptible to erosion and are prohibited in V Zones and are not recommended for A Zones in coastal areas. (Note that parking slabs are often permitted below elevated buildings, but are susceptible to undermining and collapse.) It is recommended that parking slabs be designed to be frangible (breakaway) or designed and constructed to be self-supporting structural slabs capable of remaining intact and functional under base flood conditions, including expected erosion. For more information, see NFIP Technical Bulletin 5, *Free-of-Obstruction Requirements for Buildings Located in Coastal High Hazard Areas* (08/08).

Crawlspace: Crawlspace foundations are prohibited in V Zones and are not recommended for A Zone construction in coastal areas. They are susceptible to erosion when the footing depth is inadequate to prevent undermining. Crawlspace walls are also vulnerable to wave forces. Where used, crawlspace foundations must be equipped with flood openings; grade elevations should be such that water is not trapped in the crawlspace (see Fact Sheets Nos. 3.5, *Foundation Walls* and 8.1, *Enclosures and Breakaway Walls*).

Figure 2. Performance comparison of pier foundations. Piers on discrete footings (foreground) failed by rotating and overturning while piers on more substantial footings (in this case a concrete mat) survived (Pass Christian, Mississippi)

Stemwall: Stemwall foundations are similar to crawlspace foundations in construction, but the interior space that would otherwise form the crawlspace is often backfilled with structural fill or sand that supports a floor slab. Stemwall foundations have been observed to perform better during storms than many crawlspace and pier foundations. Although the IRC allows for heights of up to six feet, it is usually more economical and a better design choice to use another foundation system if stemwalls are over a few feet in height. During periods of high water backfill, soils may become flooded and cause damage to the slab. The designer should ensure that this does not cause consolidation of the backfill. In addition, in some soils such as sand, capillary action can cause water and moisture to affect the slab. Flood openings are not required in a backfilled stemwall foundation. Stemwall foundations are

prohibited in V Zones but are recommended in A Zone areas subject to limited wave action, as long as embedment of the wall is sufficient to resist erosion and scour (see FEMA 549, *Hurricane Katrina in the Gulf Coast*).

Solid Foundation Walls: The NFIP prohibits solid foundation walls in V Zones and are not recommended for A Zone areas subject to breaking waves or other large flood forces—the walls act as an obstruction to flood flow. Like crawlspace walls, they are susceptible to erosion when the footing depth is inadequate to prevent undermining. Solid walls have been used in some regions to elevate buildings one story in height. Where used, the walls must allow floodwaters to pass between or through the walls (using flood openings). (See Fact Sheets Nos. 3.5, *Foundation Walls* and 8.1, *Enclosures and Breakaway Walls*.)

Pier (column): Pier foundations are recommended for A Zone areas where erosion potential and flood forces are small. This open foundation is commonly constructed with reinforced and grouted masonry units atop a concrete footing. Shallow pier foundations are extremely vulnerable to erosion and overturning if the footing depth and size are inadequate. They are also vulnerable to breakage. Fact Sheet No. 3.4, *Reinforced Masonry Pier Construction*, provides guidance on how to determine whether pier foundations are appropriate, and how to design and construct them.

Foundations for High-Elevation Coastal Areas

Foundation design is problematic in bluff areas that are vulnerable to coastal erosion but outside mapped flood hazard areas. Although NFIP requirements may not apply, the threat of undermining is not diminished.

Moreover, both shallow and deep foundations will fail in such situations. Long-term solutions to the problem may involve better siting (see Fact Sheet No. 2.2, *Selecting a Lot and Siting the Building*), moving the building when it is threatened, or (where permitted and economically feasible) controlling erosion through slope stabilization and structural protection. Additionally FEMA 232, *Homebuilders' Guide to Earthquake Resistant Design and Construction*, provides information on foundation anchorage for hillside structures.

Foundations in V Zones with Ground Elevations Above the BFE

In some instances, coastal areas will be mapped on an NFIP Digital Flood Insurance Rate Map (DFIRM) as Zone V, but will have dunes or bluffs with ground elevations above the BFE shown on the DFIRM. During a design flood event, erosion of the bluffs and high dunes can be expected at these areas as well as waves and inundation. Therefore, the ground level can be expected to be lowered to a point that wave forces and loss of soil are a critical factor. The foundations for structures in these V Zone areas with high ground elevation are the same as V Zone areas with lower ground elevations. Deeply embedded pile or column foundations are still required in these areas, and solid or shallow foundations are still prohibited. The presence of a V Zone designation in these instances indicates that the dune or bluff is expected to erode during the base flood event and that V Zone wave conditions are expected after the erosion occurs. The presence of ground elevations above the BFE in a V Zone should not be taken to mean that the area is free from base flood and erosion effects.

Additional Resources

FEMA 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (July 2006). (http://www.fema.gov/library/viewRecord.do?id=1853)

FEMA 549, *Hurricane Katrina in the Gulf Coast* (July 2006). (http://www.fema.gov/library/viewRecord.do?id=1857)

FEMA, NFIP Technical Bulletin 5, *Free-of-Obstruction Requirements for Buildings Located in Coastal High Hazard Areas*, FIA-TB-5, Washington, DC, August 2008. (http://www.fema.gov/library/viewRecord.do?id=1718)

FEMA 232, *Homebuilders' Guide to Earthquake Resistant Design and Construction*, Washington, DC, February 2001 (http://www.fema.gov/library/viewRecord.do?id=2103)

American Society of Civil Engineers (ASCE/SEI) Standard 7-10: *Minimum Design Loads for Buildings and Other Structures*, ASCE 7-10, (http://www.asce.org)

American Society of Civil Engineers (ASCE). *Flood Resistant Design and Construction*, ASCE/SEI 24-05. (http://www.asce.org)

Lowest Floor Elevation

Purpose: *To describe the benefits of exceeding the National Flood Insurance Program (NFIP) minimum elevation requirements; to identify common construction practices that violate NFIP regulations, which result in significantly higher flood insurance premiums; and to discuss the NFIP Elevation Certificate.*

Why Is the Lowest Floor Elevation Important?

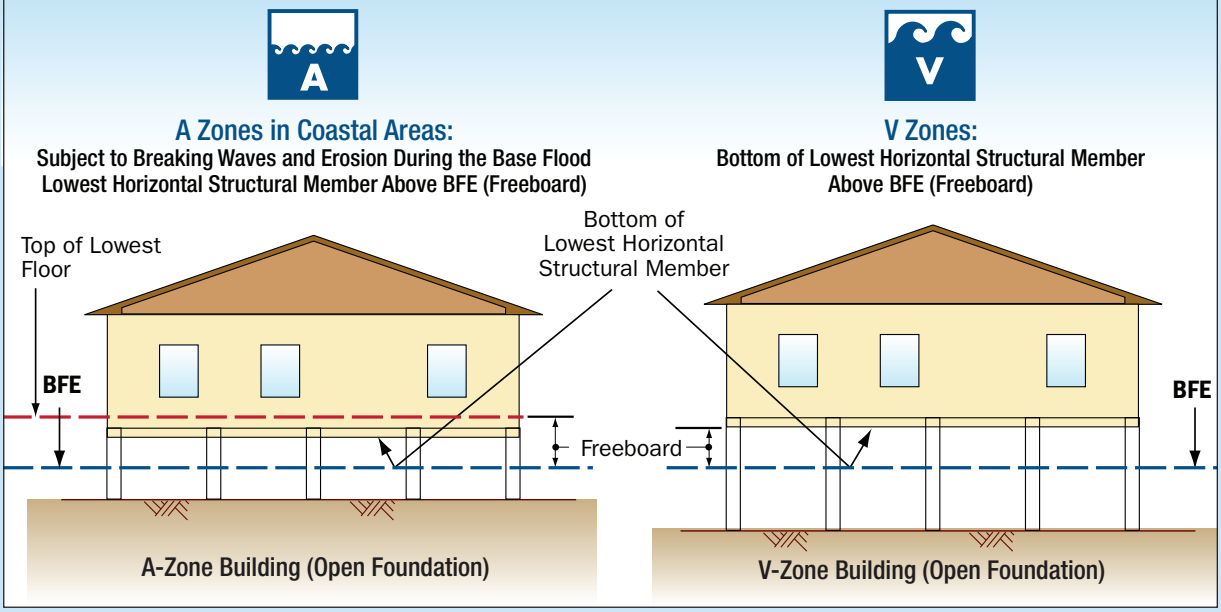
In riverine and other inland areas, experience has shown that if the lowest floors of buildings are not elevated above the flood level, these buildings and their contents will be damaged or destroyed. In coastal areas, wave action causes even more damage, often destroying enclosed building areas below the flood level (and any building areas above the flood level that depend on the lower area for structural support). Once waves rise above the lowest structural member in V Zones or Coastal A Zones, the elevated portion of the building is likely to be severely damaged or destroyed.

Recommended Lowest Floor Elevations*

Because of the additional hazard associated with wave action in V Zones and in Coastal A Zones, it is recommended that the elevation requirements of ASCE 24 (that exceed the minimum elevation requirements of the NFIP) be followed:

- The bottom of the lowest horizontal structural member of a building in the V Zone is elevated 1 foot or more above the Base Flood Elevation (BFE) (i.e., add freeboard).
- The lowest horizontal structural member of a building in the A Zone in coastal areas is elevated 1 foot or more above the BFE (i.e., add freeboard).

Recommended Practice:



* NFIP minimum elevation requirements: A Zones – elevate top of lowest floor to or above BFE; V Zones – elevate bottom of lowest horizontal structural member to or above BFE. In both V Zones and A Zones, many people have decided to elevate a full story to provide below-building parking, far exceeding the elevation requirement. See Fact Sheet No. 1.2 for more information about NFIP minimum requirements in A Zones and V Zones.

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

V-Zone Certificate

Development Permit Number:

Owner:

Address:

Section I: Flood Insurance Rate Map (FIRM) Information

Community Number: Panel Number: Suffix:

Date of FIRM Index: FIRM Zone:

Section II: Elevation Information

NOTE: This certificate is not a substitute for an Elevation Certificate. All elevations must be based on Mean Lower Low Water (MLLW) datum and rounded to the nearest one-tenth (1/10) of a foot.

1. Elevation of the Bottom of the Lowest Horizontal Structural Member: _____
2. Base Flood Elevation (BFE): _____
3. Elevation of Lowest Adjacent Grade (LAG): _____
4. Embedment Depth of Pilings or Foundation below LAG: _____
5. Will the Structure be Located Landward of the Reach of Mean High Tide? _____
6. Does the Project Involve the Use of Fill for Structural Support of Buildings? _____

Section III: V-Zone Certification Statement

NOTE: This section must be certified by a registered professional engineer or architect licensed in the State of Alaska.

I certify that I have developed or reviewed the structural design, plans and specifications for construction and that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the following provisions:

- The bottom of the lowest horizontal structural member of the lowest floor, excluding piles or columns, is elevated to or above the BFE; and
- The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values must each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval). Wind loading values used are those required by applicable State statute and local code.

Section IV: Area Below BFE in Velocity Zone

NOTE: This section must be certified by a registered professional engineer or architect licensed in the State of Alaska.

I certify that the space below the lowest floor is designed to be used solely for parking of vehicles, building access, and/or limited storage and that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the following provisions:

- All utilities, including ductwork and equipment are designed, located, and/or elevated to prevent flood waters from entering and accumulating in components during flooding.
- Constructed with nonsupporting breakaway walls, open wood latticework, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or support foundation system.

Section V: Breakaway Wall Certification Statement

NOTE: This section must be certified by a registered professional engineer or architect licensed in the State of Alaska.

I certify that I have developed or reviewed the structural design, plans and specifications for construction and that the design and methods of construction to be used for the breakaway walls are in accordance with accepted standards of practice for meeting the following provisions:

- Breakaway walls have a design safe loading resistance of not less than ten pounds per square foot and no more than 20 pounds per square foot. Or;
- Breakaway wall collapse must result from a water load less than that which would occur during the base flood; and
- The elevated portion of the building and supporting foundation system must not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading values to be used in this determination must each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval). Wind loading values shall be those required by applicable state statute and local code.

Section VI: Certification

Signature below certifies: Section II; ☐ ***Section III;*** ☐ ***Section IV;*** ☐ ***Section V*** ☐

Note: This document must be wet-stamped with the certifier's appropriate Engineering or Architectural stamp.

Certifier's Name:_____ Company Name:_____

Title:_____ License Number/Expiration:_____

Street Address:_____

City: _____ State:_____ Zip Code:_____

[Stamp]

Signature:_____ Date:_____ Telephone #:_____

Public testimony – none.

MOTION: *by Mr. Levine, to approve AME2016 0018 accepting the staff's analysis and findings.*

Mr. Frisby seconded the motion.

The motion passed with no objection.

Mr. Haight recessed the body as a Planning Commission and took up business as the Board of Adjustment at 9:15 pm.

X. BOARD OF ADJUSTMENT

A. **FZE2016 0001:** A Flood Zone Exception to allow new restaurant buildings to be built on a dock seaward of the man high tide in a Velocity flood zone.
Applicant: James Bibb
Location: 406 South Franklin Street

Staff Recommendation
Staff recommends that the Board of Adjustment adopt the Director's analysis and findings and deny the requested Flood Zone Exception, FZE2016-0001.

If the Board of Adjustment makes findings to grant the applicant's project, staff recommends the following conditions:

1. Prior to issuance of a Building permit, the applicant shall submit plans showing how improvements to the deck will be made, consistent with the attached 2016 engineer's letter.
2. Prior to issuance of a building permit the applicant shall submit plans showing that the existing footings on the beach will be improved to withstand forces from a 100-year storm event.
3. Prior to issuance of a Certificate of Temporary Occupancy, the applicant shall make improvements consistent with Conditions 1 & 2.

Mr. Feldt explained that the proposal before the commission is similar to a variance but is not through the land use code. Rather it is a variance of the flood zone regulations.

The reason why the flood zone exception is brought to the commission at this time is that the structures of the previous restaurant on this deck were smaller and substantially different from the new proposed structures. This requires a new flood zone exception to be filed, reviewed and taken action upon.

The focal point of the review was that the proposed buildings are located on an area seaward of mean high tide and the property is in a velocity flood zone, which means that during a 100-year storm event the shoreline would experience either a combination of three-foot tall waves or higher or a wave of lesser height that, when it hits the shoreline, has a high wave run up. There are more stringent building

regulations in such an area to withstand the greater wave force as compared to a building located near a river.

Mr. Feldt presented a PowerPoint of the project and staff's findings. He noted that there were three findings in the flood zone exception of the land use code that were found to be unmet. One of these would be met automatically if the other two were found to be met. There are 11 items to consider under CBJ 49.70.410(b). Staff found items 4 and 5 unmet:

(4) The importance of the services provided by the proposed facility to the community
(5) The necessity to the facility of a waterfront location, where applicable

Because of these unmet conditions, staff recommends denial. But if the Board of Adjustment makes findings to grant the applicant's proposal, staff recommends three conditions. Staff reviewed these conditions with the applicant, who in turn had a conversation with their clients, and they found it would be viable to meet conditions 1 and 2.

Board of Adjustment questions and comments:
Mr. Voelckers remembers seeing this exemption a few years ago and recollects one of the reasons there was favorable sympathy to the applicant in granting this was because there had not been FEMA loading criteria established yet for how strong a dock had to be to survive a 100-year event. Has this been clarified any more, he asked?

Mr. Feldt said the FEMA regulations were in place in 2014 when the exception was heard. In order for the community to have flood insurance for business owners and property owners, the city has to adopt very specific flood regulations through FEMA to participate in the national flood insurance program. The program is the tool where flood insurance is enabled for the local community. When a mortgage is issued or when a property is involved with a lender, the lender is the mechanism that triggers flood insurance. FEMA regulations that are in CBJ's land use code were established well before 2014. There were different findings to get to the approval of the flood zone exception by the previous Board of Adjustment instead of being explained by FEMA regulations being flexible.

Mr. Voelckers asked if Mr. Feldt could describe how the features being added are treated as a building. Would they remain permanently on the dock? Mr. Feldt said the structures are enclosed areas, but he deferred the question to the applicant.

Mr. Voelckers said he does not understand the logic regarding Criteria 6, which the staff report said had been met in the review. There is a burden on proving that there is not an alternative location for the proposed use which is not subject to flooding or erosion damage. The conclusion in the report is that it is non-applicable because the restaurant is sitting on top of dock, above the high water mark. He said it seems like faulty logic because of the vulnerability of a dock to wave action below. Mr. Feldt said once the fact that the deck will be able to withstand a 100-year storm force, there will likely be some degree of erosion and damage, but structurally the deck will be intact because of the conditions on the permit, if the flood zone exception is approved.

Mr. Levine asked if the intent of the criterion is more narrowly focused. Mr. Feldt said staff's focus was on the improvement seaward of mean high tide. Once structural integrity is established, strong enough to withstand a 100-year storm force, anything on top would not be damaged. Furthermore, the decking and the lowest horizontal members of the deck itself are above the base foot elevation, meaning that if a 100-year storm event were to impact the property it would only surround the piers, the waves would not impact the deck itself.

Mr. Levine asked if the natural extension of this logic would be that they don't need the flood zone exception at all. Mr. Feldt said the origin of the requirement to not build seaward of mean high tide is along more open shore lines and where fill is brought in to raise the starting point of the foundation, which could erode away in a storm event. Juneau's South Franklin development does not have that amount of fill projecting out into the channel. There are piers instead. There are shoreline areas consisting of fill that is decades old and have withstood a lot of storm force.

Mr. Voelckers said there was some narrative about the new 16-B dock adding greater buffering. He wonders if this is considered; does FEMA make this sort of subjective determinations? Mr. Feldt said the second dock will create some buffering. The process to prove to FEMA to change the maps behind the loading dock will have to go through a map amendment. Staff can pursue this with FEMA and work with Docks & Harbors and their engineers, etc. Mr. Voelckers said he doesn't understand how FEMA could allow one to make subjective judgements about whether an area was more or less dangerous. He thought it was just a question of vertical height. Mr. Feldt said they do draw the line which they say that the community has some given flexibility through a flood zone exception, so long as all the findings are met. Certainly you have to build above the base foot elevation, but along a velocity flood zone, it also adds another limitation above and behind the mean high tide line.

Mr. Haight said it seems we have come to a technical review of what we think the velocity condition might present to the site in determining this exception. That is correct, said Mr. Feldt.

Mr. James Bibb of Northwind Architects, the applicant representing his client who is the restaurant owner, came forward to speak along with Kate Nichols of Numan Development, the design consultant on the project specifically the container portion of the project.

Mr. Bibb said that the engineer on the project was not present but can answer questions and follow up as necessary. Mr. Bibb said he wanted to follow up regarding the two unmet criteria on the exception and address these similarly to how they were addressed two years ago when Northwind Architects represented the previous client/restaurant owner and the board ruled in favor. The question is for the community, where does Juneau see the waterfront going? A goal for the city is to become more pedestrian-oriented along the waterfront, as evidence by the development of the sea walk and the long-range waterfront plan. Therefore, development along that edge is critical to economic success and needs to be done in a manner according to the Comprehensive Plan, building codes, and so forth. This project is a verification of that.

Mr. Bibb shared a handout to commission members that included his bullet points. His points go to the question of why waterfront development is taking place and why that is critical in supporting Juneau's visitation industry. The growth of this industry puts some pressure on us to make sure that amenities along the sea walk, specifically along South Franklin Street, are encouraged.

The reason why this project is critical in this location is because that is the success or failure of businesses. A seafood restaurant marketing local product has to be near the waterfront, that makes sense and the market itself, the private sector, is making that determination. Location is critical for this, said Mr. Bibb.

Regarding number 5, Mr. Bibb said the reason why two years ago they proposed the dock had a lot to do with the operation of the restaurant. There are very few locations with dock waterfront south-facing venues and that character and atmosphere. Also, he said, one would not expect fresh, local seafood to be served internally; the success of that is the ability to go out on deck and have that connection to the waterfront. This is how you market the main asset.

Mr. Bibb pulled up the graphic he had handed out, which compared the previous restaurant layout to the proposed one. He noted that for the most part, they tried to pull the structures back from the flood zone line but their final plan reflects the best way that a restaurant operates. They also had a structural engineer do an assessment of the existing dock. Upgrades were done to the dock two years ago and so they leveraged the existing qualities of the dock itself, finding the best places that make the most structural sense. This gets to the idea that the dock is going to maintain a design that supports the resistance for the loading criteria based on a 100-year flood zone or seismic occurrence. This is similar to the criteria that they had to meet last time, and they were successful in arguing these points then.

Kate Nichols spoke and stated that she is an engineer by education and has been involved in all of the discussion with Bruce Berryhill regarding this project. She spoke to comments regarding the 100-year flood concern and the mean tide issue. It has been determined that the criteria can be met for the pier to withstand a 100-year storm which means that since the mean tide is beneath the pier that anything above the pier would be safe. She believes this is the key requirement being looked at for the FEMA requirement. Also if trying to elevate the waterfront to a world class status, she said she has yet to be in a place better suited for a marriage of this method of architecture and an environment. Structurally and operationally the modules that are beyond the mean high-tide line need to be there. The combination of the fact that the pier can withstand a 100-year storm event, that no one is being put in harm's way and that it is required for the project to proceed successfully and capitalize on the magnificent nature of Juneau's waterfront are key points.

Mr. Voelckers asked if the intent is that the structures would not move seasonally. Ms. Nichols said although they could be moved, the intent is not to move them seasonally. Are they heavier than what was there before, asked Mr. Voelckers? Yes, said Ms. Nichols, but those lateral loads and their effects come more into play in a seismic situation than in a storm situation. They will be adequately addressed in the building permit process. There should be no concern there.

Public testimony – none.

Commission Comments and Questions:
Mr. Voelckers said he had staff questions, perhaps best directed to law staff. He said he buys the focus on a vital waterfront but he was having trouble reconciling the criteria the board is supposed to review. He wondered who takes the liability from what might happen from this decision.

Mr. Palmer took the floor. He referred the board to CBJ 49.75.10(J). There is a wording and disclaimer of liability specifically in code, "This article shall not create liability on the part of the city and borough or in the office thereof or the Federal Insurance Administration." Hopefully that resolves the question about liability. Liability, if it exists, is with the users and/or owners of the property. Mr. Voelckers asked if the lender is satisfied that the applicant has made appropriate corrections to take this design load then everybody is cool. On the private market side, yes, said Mr. Palmer. Mr. Voelckers asked if there was any cautionary in terms of precedent setting, similar to issues raised with variances about making sure all of the readings can be justified because of further legal consequences or the potential of something being overturned. There could be, said Mr. Palmer. The general guidance is what is specific about this application as evaluated by the criteria. He said that Mr. Feldt has provided one set of proposed analysis, but the board can make a change if they believe there is something else that is more unique or that needs to be emphasized.

Mr. Levine said he was also conflicted about this application. He wondered how previous findings of this body which granted the exemption two years ago might bind this board. And, if so, what were those conclusions? Mr. Palmer said they are not bound by the previous approval; however they can look to those conclusions for precedential value. One of the inherent reasons why this applicant came before the board is because staff determined that this application is significantly different from the prior application. If the board wants to address that finding tonight, and if the board articulates that this applicant is not so significantly different, then the board might determine that the presumption in the staff report that a prior land use permit goes with the land, not the applicant, does not apply here. The board might determine that this application is so similar to the past that there is no need for this application tonight.

Mr. Levine asked Mr. Feldt how this application is different. Mr. Feldt said the differences lie in the amount of enclosed versus un-enclosed structures and there are more enclosed structures seaward of mean high tide than other project. These are the two primary differences that led to staff's conclusion. Mr. Levine asked if the board decides the projects are substantially similar, then would they eliminate the obligation to address the Conditional Use permit that is also before the other body of the Planning Commission.

Mr. Palmer said the answer is yes. The Community Development Department has focused on the use above the dock. The board might also consider whether the use below the dock has changed and whether or not that is the focal point for this application or if it may also be the focal point for the CUP.

Mr. Voelckers said it seems the fundamental difference is that the last project did not involve wholesale dock strengthening and additional lateral and seismic upgrades while this one does.

Mr. Feldt spoke to the Conditional Use permit. He said that regardless of the similarity to the previous restaurant, this is new development and new structures which trigger the need for obtaining a new CUP for development in a mapped landslide and avalanche hazard zone.

Mr. Levine said he just heard two different answers to the question. Ms. McKibben said that Mr. Feldt explained the rationale for the CUP application. You are not evaluating the use; you are evaluating the development within the hazard era, which is required. She said that what Mr. Palmer said, and which she agrees with, is if it is determined that the use is substantially similar and the flood exception evaluation is substantially the same, then the same would be true for the development within the hazard area.

MOTION: *Mr. Peters moved to adopt the Director's analysis and findings and deny the requested Flood Zone Exception, FZE2016-0001, recognizing that criteria B, 4 & 5 are not met. Looking at the plans before the board, the use has substantially changed in design and elements on the deck.*

Mr. Haight said that he felt the applicant has proposed modifications and upgrades to the dock to offset the increased loading to the dock in a manner that would bring it back into a compliance to meet that exception. In that manner, he opposed Mr. Peters' motion.

Mr. Levine said he remains conflicted. He said he thinks there ought to be a restaurant in this location but he finds himself beholden to the criteria and is still not fully confident that this satisfies the criteria. He also feels beholden to the previous grant of the exception. Therefore, he will vote reluctantly in favor of Mr. Peters' motion.

Mr. Dye asked to clarify that the two items not met are not regarding the structural aspects of the dock. Items 4 and 5 are about land use, correct? He asked Mr. Haight if he had any language for 4 and 5 to find in the affirmative. Mr. Haight said with regard to 4, the economics and use of the area would be broadened with more diversity of market that brings and holds visitors in that area. He said that if the city is reliant on singular types of stores then he thinks the people will move on through. In this respect it becomes an important service to that part of the community. The necessity of being on the waterfront falls into the same argument. We want to hold visitors to this area. The other part of it, as the applicant has brought forward, is that the project works well with the sea walk that the city is promoting. Mr. Haight said that from his perspective those two criterion are met.

Mr. Voelckers said that he is conflicted but will oppose the motion and agree with the chair. This is a good use with the city's new, revitalized sea walk and would add pedestrian usage to this area. He did not think item 6 and maybe item 10 are technically met, however he took satisfaction from Mr. Palmer's remarks that imply that this is not the same level of rigorous point-of-the-knife issue that the board might have in some other type of variance. There is a little bit of figuring out relative to FEMA

regulations which, he thinks, have been structured too oppressively. He is satisfied that the dock itself is going to be taken care of.

Mr. Bell stated he was also torn trying to justify supporting this application. He said he sees economic value in the rejuvenation of the area. The dock is a critical issue, he said. It is a substantial investment on the community's part. It has the opportunity to create a pleasant atmosphere for the area, yet all criteria are not met.

Mr. Steedle asked a technical question of Mr. Palmer. Are these to be treated as criteria all of which must be met or does the board simply have to consider each of them and if the general intent is met, would that be sufficient? Mr. Palmer read the introductory language and said ultimately it is a question for the board. "In passing upon such application, the Board of Adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this article and then it lists the eleven criteria and they are in the conjunctive with the 'and' between 10 and 11." Mr. Palmer said that if the board wants to say all must be met to pass, there is basis for that. If the board wants to go to a different conclusion, there may be a basis for that but the board would have to articulate it.

Mr. Levine said Mr. Steedle's question changes the way the board might think about this. He paraphrased what Mr. Palmer read and asked if his understanding was correct. He said that the way he read the staff report, it has been treated the way a variance criteria works, where the applicant has to meet all 5 of the things or a variance cannot be granted. He believes Mr. Palmer is suggesting that if the board wants to interpret the code, the board could interpret their obligation to consider the 10 or 11 factors and make their own determination based on a consideration of those factors. Mr. Palmer said that is a fair representation. He emphasized that there is an easier basis for him to say that the board has to bind all 11 to be found in the positive. If the board wants to articulate some reason that means there is an 'or', it is for this body to do so.

Mr. Frisby said he would disagree with the motion on the floor for the same reasons that Mr. Levine agreed. He wondered if the board could table this as he feels they are talking about issues that they don't really have answers to regarding load and structural integrity. He said he thinks the board needs more information. He said he feels they would be making a decision with insufficient information.

Mr. Peters made a point of order in terms of precedence. His question to staff was what is the past history in terms of looking at these 11 criteria? He said he believes in the past all 11 had to be met. He raised the issue that they will be setting precedent moving forward as to how the board considers these criteria.

Mr. Feldt explained that in the past they have treated it very similar to a variance and have put variance findings in addition to the flood zone exception findings in the same report. This is the first one that staff has not done this because of the different interpretation staff has made recently about the use of variances. Ultimately staff concluded to remove the variance findings and depart from past practices

and, now, only has the flood exception findings in this report. The two are very different even though they sound kind of similar.

Mr. Haight restated that there was a motion on the floor.

Mr. Bell asked if the board would consider tabling this for further evaluation. Mr. Haight said yes if the board is looking for additional information. If so, what is that information that we would hand to the staff to bring back to the board.

Mr. Voelckers said the board has had information from Mr. Palmer and staff that this is different from the normal variance that is explicit that the board has to find in the affirmative for all criteria. He said in the language that a couple of times it talks about 'upon consideration' which implies that this is different.

Ms. McKibben pointed out some other language that she felt might provide guidance. She directed the board's attention to 49.70.410(d): *Upon consideration of the factors of subsection (b) of this section and the purposes of this article, the board may deny or grant the application and may attach such conditions to the grant of an exception as it deems necessary to further the purposes of this article*.

She directed the board's attention to 49.70.400(a) *Purpose. The purpose of this article is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas. Other purposes are to:*
2) Prevent the erection of structures in areas unfit for human usage by reason of danger from flooding, unsanitary conditions, or other hazards;
(3) Minimize danger to public health by protecting the water supply and promoting safe and sanitary drainage;
4) Reduce the financial burdens imposed on the community, its governmental units, and its individuals by frequent and periodic floods and overflow of lands;
(6) Ensure that potential buyers are notified that property is in a special flood hazard area; and
(7) Ensure that those who occupy the special flood hazard area assume financial responsibility for their development.

Ms. McKibben said this section is followed by a whole section on interpretation the board might want to read. She quoted from 49.70.400(b); 1) . . . *provisions shall be considered as the minimum requirements and shall be liberally construed in favor of the governing body*. She quoted other points in this section of the code regarding the purposed of the chapter.

Mr. Haight said that there was still have a motion on the floor. He asked for a roll call vote.

Yes Votes	**No Votes**
Mr. Dye	Mr. Levine
Mr. Peters	Mr. Frisby
	Mr. Voelckers
	Mr. Bell
	Mr. Haight

The motion failed.

MOTION: *Mr. Levine moved as follows: The Board of Adjustment has considered all relevant factors including those set forth in 49.70.410(b). Upon such consideration, the board grants FZE2016 0001 and includes staff's recommended conditions:*

1. Prior to issuance of a Building permit, the applicant shall submit plans showing how improvements to the deck will be made, consistent with the attached 2016 engineer's letter.

2. Prior to issuance of a building permit the applicant shall submit plans showing that the existing footings on the beach will be improved to withstand forces from a 100-year storm event.

3. Prior to issuance of a Certificate of Temporary Occupancy, the applicant shall make improvements consistent with Conditions 1 & 2.

Mr. Levine said he now reads the provision of the language as allowing the board to award this exception upon fully considering all of those factors and, when alleviated of the responsibility of having to find that all of them were affirmatively met, he concurs that this project is one that ought to go forward. He said he is satisfied that it qualifies for the flood zone exception.

Mr. Dye asked for clarification that the board will not find different findings for 4 or 5 or try and fix 6 or 10. No, said Mr. Levine.

Mr. Frisby seconded the motion.

Mr. Voelckers spoke in favor of the motion. He said it was a well-phrased way to finesse the problem where it gets away from trying to look at the 11 issues individually but, on balance, the board believes public safety and welfare and the general good of community has been met.

Mr. Peters wanted to renew his concern and acknowledge that not 11 items under (b) have been met. He was concerned that the board would pass this, acknowledging that comments have been put in the record that 6 and 10 may or may not be met. He said he will oppose the motion.

Mr. Levine said that he agrees that not all criteria have been strictly met, but it is his reading that they do not need to be.

Mr. Dye asked if this decision will carry over to the board's on-going struggles with variances and their interpretation or are we leaving that well enough alone. Mr. Palmer responded that if this motion passes with the analysis that was done in this case, it could be used for persuasive authority in similar cases in the future.

Mr. Voelckers asked Mr. Palmer if he was talking about a FEMA determination, not broadly in other land use categories. Mr. Palmer said specific to the analysis and requirements of 49.70.410.

Mr. Haight called the motion with a roll call vote.

Yes Votes	No Votes
Mr. Levine	Mr. Peters
Mr. Frisby	
Mr. Voelckers	
Mr. Bell	
Mr. Haight	
Mr. Dye	

The motion passed.

Mr. Haight adjourned the Board of Adjustment at 10:24 pm and reconvened the body as the Planning Commission.

A. **USE2016 0029:** A Conditional Use Permit request for a new outdoor seasonal restaurant in a landslide and avalanche zone
Applicant: James Bibb
Location: 406 South Franklin Street

Staff Recommendation
It is recommended that the Planning Commission adopt the Director's analysis and findings and grant the requested Conditional Use permit. The permit would allow the development of outdoor restaurant uses within a mapped landslide hazard zone.

Mr. Feldt said he did not prepare a presentation but was happy to go over the findings. He asked if the commission wished for staff to provide a presentation but the commissioners did not want this.

Mr. Haight asked for questions from commissioners for staff or for the applicant. There were none.

Public comments – none.

MOTION*: by Mr. Voelckers to approve USE2016 0029 accepting the staff's analysis and findings and asked for unanimous consent.*

The motion passed with no objection.

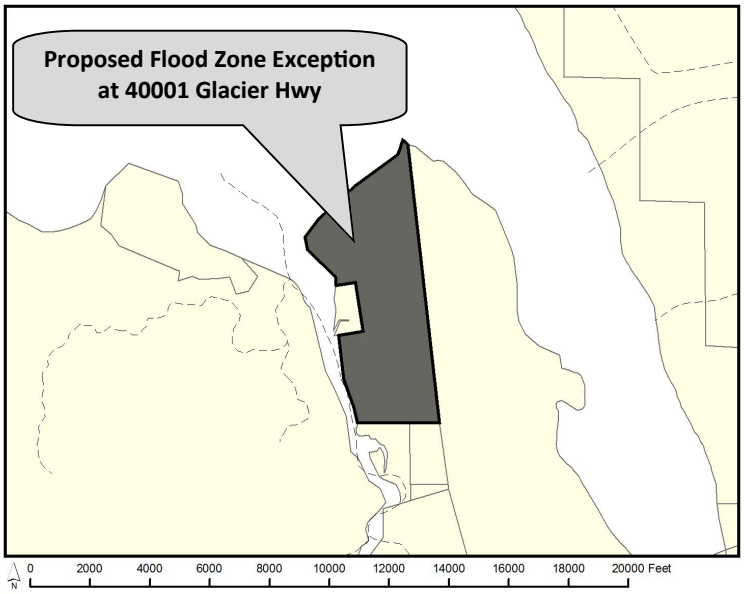
XI. OTHER BUSINESS

Mr. Voelckers said that they are on track with the CIP Ad Hoc Committee meeting at 5:30 on December 1 in Assembly Chambers. Mr. Steedle said that Mr. Healy and Mr. Watt will be present at that meeting. If that meeting is brief, Mr. Steedle said there will be time to make it to the Lemon Creek Steering Committee meeting at 6:00 at Gruening Park Community Hall.

Invitation to Comment

On a proposal to be heard by the CBJ Planning Commission

Your Community, Your Voice



CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT
155 Heritage Way Juneau, Alaska 99801

TO

A Flood Zone Exception has been submitted for consideration and public hearing by the Planning Commission for **construction of a gymnasium/agricultural structure** at **Echo Ranch Bible Camp** in an unnumbered **Velocity (V) Zone**.

PROJECT INFORMATION:
Project Information can be found at:
https://juneau.org/community-development/short-term-projects

PLANNING COMMISSION DOCUMENTS:
Staff Report expected to be posted **April 6, 2026** at
https://juneau.org/community-development/planning-commission
Find hearing results, meeting minutes, and more here, as well.

Now through April 2

Comments received during this period will be sent to the Planner, **Forrest Courtney** to be included as an attachment in the staff report.

April 3 — noon, April 10

Comments received during this period will be sent to Commissioners to read in preparation for the hearing.

HEARING DATE & TIME: 6:00 pm, April 14, 2026

This meeting will be held in person and by remote participation. For remote participation: join the Webinar by visiting https://juneau.zoom.us/j/86847221296 and use the Webinar ID: 868 4722 1296 OR join by telephone, calling: 1-253-215-8782 and enter the Webinar ID (above).

You may also participate in person in City Hall Assembly Chambers, 155 Heritage Way Juneau, Alaska.

April 15

The results of the hearing will be posted online.

FOR DETAILS OR QUESTIONS,

Phone: **(907)586-0753 ext. 4208**
Email: **pc_comments@juneau.gov or Forrest.Courtney@juneau.gov**
Mail: **Community Development, 155 Heritage Way, Juneau AK 99801**

Case No.: FZE2026 0001
Parcel No.: 3B4501000041
CBJ Parcel Viewer: http://epv.juneau.org

Printed March 25, 2026

NOTICE

For more information
586-0715
pc_comments@juneau.org

FLOOD ZONE EXCEPTION

Case:FZE20260001:
Flood Zone Exception for construction of a gymnasium/agricultural structure at Echo Ranch Bible Camp in an unnumbered Velocity (V) Zone.

HEARING DATE: 4/14/2026

From: Pam Morris
To: PC_Comments; Forrest Courtney
Subject: Flood Zone Exception for Echo Ranch
Date: Monday, March 30, 2026 5:45:54 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

I am writing to publicly comment on the Flood Zone Exception requested at Echo Ranch. Please expedite any permits needed for Echo Ranch to rebuild the gym that was destroyed by this winter's unusually deep snowfall. The gym is an integral part of the function of this ranch that serves around 1,000 Southeast Alaska children each summer and about the same amount of Southeast residents for retreats in the spring and fall. For each of these groups who come to camp or a retreat, the gym has served as the one large, dry space that is used as a place to sort luggage before going to cabins, an open area for kids to run around when it's raining, play basketball, a game room for pool and other games, and a craft room for kids. It would be extremely difficult to provide quality service to the public without this large covered space.

As a teacher in the Juneau School District, I know that every year many classrooms of students look forward to their adventure out to the Ranch for a day or two where they have the opportunity to enjoy a ranch setting, practice Outdoors Skills Training, or just bond as a class group. Many of these students do not otherwise have such opportunities. It always turns out to be one of their favorite class outings.

Echo Ranch does not just cater to the kids of Southeast Alaska. Several of our community members, mostly from Juneau, come out for retreats in the spring and fall. The Becoming Outdoor Women retreat put on by Alaska Fish and Game is one of the largest retreats and they utilize almost most all of the property to offer their many classes to the women who come out to learn outdoor skills. A big part of their space used is always the gym and they need that space to put on their programming to its fullest. Other groups who use Echo Ranch (and the gym space) from the community are Girl Scouts, one of the karate dojos, and several church groups. This is all besides the 1,000 children from Southeast, mostly Juneau kids, who come out for summer camps. Not having a large covered area this past summer would have greatly negatively affected all of them.

With the collapse, all of that large covered space is gone, but there remains a perfectly good piece of concrete. Time is of the essence with Echo Ranch opening to the public in about a month. There is not time to build an entirely new structure in a new space outside of the proposed flood zone. Building on top of the existing concrete slab is the only way that this needed area can be restored and utilized for this year's retreat and camp season.

Echo Ranch needs to be allowed to put up a structure on the existing concrete slab in enough time to use it for this spring's events. I understand that they do have plans to build a new large covered space outside of the "flood zone" in the next couple of years. Please expedite permits

and allow them a temporary covered space on the present concrete slab until then.

Thank you,
Pam Morris

From: hermie
To: PC_Comments; Forrest Courtney
Subject: Please allow Echo Ranch Exemption
Date: Monday, March 30, 2026 4:09:05 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Please allow Echo Ranch to receive an exemption to build a new structure on the existing area. This has been a great resource for campers throughout the community and across the state and even other states. I would hope that this exemption would be allowed so that echo Ranch would not be hindered in their ability to provide a great camp experience to all the many visitors they expect to receive this year. It's my understanding that this area has never flooded in all the years that I've known of echo Ranch to be there so for them to rebuild a new structure in the same area is not a concern at this time. Many visitors utilize this space as a great covered recreational spot to gather and for other intended purposes. Unfortunately, the immense snowfall that we had this year, created an unprecedented disaster in collapsing the original structure. I hope you will grant this exemption for the camp so that they may continue to provide a wonderful service to our community and to other campers throughout the United States that have enjoyed the experience that echo Ranch as provided for many years.

Sincerely,
Juneau Resident

From: jessica dull
To: PC_Comments; Forrest Courtney
Subject: FZE20260001 - Dull Support Comment for ERBC Gym Building Rebuild
Date: Wednesday, April 1, 2026 12:38:50 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

To whom it may concern,

I want to voice my support for Echo Ranch's gym building rebuild. I support them to receive the flood zone exemption and anything else they would need to expedite the process.

I personally have spent time at Echo Ranch as a camper, served as summer staff, and now a frequent retreater. The gym building provides invaluable space and function for all of the user groups. As a young camper this building provided a dry place for luggage to be picked up, a craft room for all kinds of projects, a meeting room for discussion/study groups, and spaces for many different kinds of activities. Serving as summer staff the building provided several outlets for indoor activity such as the basketball courts and weight room that helped individuals physical/mental health and team bonding. The gym building is a high value space for retreat groups, it provides a large, versatile indoor space that can be use for things like dodgeball games to team building exercises to classes/training areas depending on the needs of the group. It is also away from the sleeping cabins so the variety of needs can be met with diverse groups (eg napping toddler and teens that need an active activity on a rainy day).

Anyone who has spent time in the Juneau area knows how fickle our weather can be, the gym building is a integral asset as a large, multi-use, indoor space in southeast Alaska that can be used if the weather in not favorable. Not having this space would mean several uses, activities, and "back-up" plans will have to be seriously adjusted or canceled all together. It would significantly impact all user groups attending Echo Ranch if a replacement for this building was not there.

Thank you for your time,
Jessica Dull

City and Borough of Juneau
Planning Commision
155 Heritage Way, Juneau, AK 99801

April 1, 2026

Comments submitted electronically via email to PC_comments.gov and Forrest.Courtney.juneau.gov for Short Term Project Case FZE2026 0001

Dear Forrest Courtney and CBJ Planning Commission,

Thank you for your service to our community and the opportunity to provide public comments for Short Term Project Case FZE2026 0001. I am a resident of CBJ and member of the Auke Bay Bible Church congregation which holds close ties to the Echo Ranch Bible Camp (Echo Ranch). Many members of the Auke Bay Bible Church have either served at Echo Ranch, sent children to Echo Ranch, and/or financially supported Echo Ranch in recognition of the important work they do. While I did not have the privilege of attending Echo Ranch as a youth, I have heard many first hand testimonies of how Echo Ranch has shaped campers and counselors lives for the better. Therefore, I am writing in strong support of granting a flood zone exception to allow the rebuilding of the gymnasium/agriculture structure at Echo Ranch.

Echo Ranch has served the community of Southeast Alaska since 1964, providing a safe, structured, and life-changing environment for youth. Each summer, hundreds of children and teens attend camp programs designed not only to grow camper's faith but also to promote personal growth, community, and values that will guide them well into adulthood. The camp plays an essential role in the lives of many families in our region, offering a place where youth can build long-last friendships, safely enjoy time outside, and be mentored by caring counselors who serve the camp whole-heartly.

The gym structure that collapsed during January's unprecedented storm was a pivotal structure for the camp and played an important role in the camp experience. It provided a safe space for recreation, shelter during rainy days, storage of key equipment during the off season, and was the very first place campers gathered to collect their bags before heading to their cabins.

I am thankful for you and your committee's concerns regarding safety and commend you for taking regulations seriously. I think it is important to note that while the site may fall within a designated flood zone, there has been no history of flooding impacting this structure since it was originally built. Furthermore, requiring the camp to relocate the structure would introduce significant delays, preventing completion before summer which would directly impact the hundreds of youth and adults who eagerly await their time at Echo Ranch all year long.

It is very clear to me that Echo Ranch is more than just a camp—it is a cornerstone of the community that positively impacts many lives year after year. Allowing timely reconstruction of this facility ensures that this important work can continue without interruption. I respectfully urge the CBJ Planning Commission to approve the requested flood zone exception so that rebuilding can begin in time for camp. Thank you for your time and consideration.

Sincerely,

Ana Velasquez, M.S.c.

Additional Materials

Regular Planning Commission Meeting

Assembly Chambers
6:00pm
Meeting Date: April 14, 2026

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1. **FZE2026 0001:**
   a. MEMO: Forrest Courtney, Correction regarding Public Comments, received 4/7/26.
   b. Addendum: Ryan Regier, Project Narrative, received 4/10/26
   c. Presentation: Ryan Reiger, Project Visuals, received 4/10/26
   d. Public comment: Kelvin Schubert, received 4/3/26.
   e. Public comment: Mike Helms, received 4/6/26.
   f. Public comment: Hannah Callicotte, received 4/7/26.
   g. Public comment: Cheryl Holden, received 4/8/26.
   h. Public comment: Michelle Jones, received 4/8/26.
   i. Public comment: Parker & Naomi Schroeder, received 4/8/26.
   j. Public comment: Bonnie Webster, received 4/9/26.
   k. Public comment: Brent Wittmer, received 4/9/26.
   l. Public comment: Keegan Hotchkiss, received 4/9/26.
   m. Public comment: Lauri Bitz, received 4/9/26.
   n. Public comment: Sherrie Ewing, received 4/9/26.
   o. Public comment: Liesel Wittmer, received 4/10/26.

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

(907) 586-0715
CDD_Admin@juneau.org
www.juneau.org/CDD
155 S. Seward Street • Juneau, AK 99801

DATE: April 7, 2026

TO: Erik Pederson, Chair, Planning Commission

BY: Forrest Courtney, Senior Planner
Community Development Department

THROUGH: Scott Ciambor, Acting Director
Community Development Department

Case Number: FZE2026 0001

RE: Correction regarding PUBLIC COMMENTS and Attachment W – Public Comments

The staff report for this case included four (4) public comments.

- One of the comments by Juneau Resident (Hermie D) should not have been included as it doesn't meet Planning Commission Rule 11(D).

Additionally, eleven (11) public comments did meet the deadline for inclusion in the packet but were omitted. These comments are included with this memo, and are from:

- Andrew Alderfer
- Grant Werthman
- Hannah Werthman
- Daniel Werthman
- Angie Regier
- Allison Westrate
- Maximus Johnson
- Eric Hotchkiss
- Barbara Sandberg
- Bobbie Epperly
- Marty Lange

From: Andrew Alderfer
To: PC_Comments
Subject: Flood zone exception
Date: Thursday, March 26, 2026 4:01:31 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

I am writing concerning the Flood Zone Exception at Echo Ranch Bible Camp. The gym is a necessary part of every community group that spends time at Echo Ranch's facilities. Whether it's a dry spot to collect luggage, play basketball, host sessions, or playing in the game room, the gym is the second most used building at camp next to the dining hall. It's not a convenience, it's a necessity for all guests, and has been used and utilized for the past 37 years. I strongly recommend granting the exception. - Andrew Alderfer

From: Grant Werthman
To: PC_Comments
Subject: Public Comment for Flood Zone Exception for Echo Ranch Bible Camp Construction
Date: Thursday, March 26, 2026 10:10:30 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

It is my view that Echo Ranch Bible Camp should be granted the flood zone exception to allow for the construction of a new gymnasium to replace the one that was destroyed by Juneau's record snowfall this January. ERBC's gym building was a hub that served many purposes for campers, retreaters, and the camp staff, from the site of many camp activities that make Echo Ranch a great summer camp experience for kids across southeast Alaska, to the storage of Echo Ranch's vehicles in the winter to keep them safe from the weather, to a place for gatherings on rainy days, and much more. Operating camp without this building will be very difficult, and every one of the roughly 1,000 summer campers and 1,000 spring and fall retreaters who visit Echo Ranch every year will feel its absence until it can be replaced.

My mind goes toward high schoolers from different SEAK communities coming together for a game of basketball in the gym and forming new friendships through it; the ladies of Becoming Outdoors-Women learning new skills like field dressing and canning in the gym; deep conversations about life happening between people of all different ages in the loft, a hangout space that was in the old gym building; summer counselors getting the chance to stay healthy and get some alone time in the weight room, which was in the old gym building; and many more experiences that will not be able to happen the same way at Echo Ranch until a new gym building is constructed.

The community of Juneau has shown an outpouring of care and support for Echo Ranch since the collapse of the old gym building, clearly showing that countless Juneau families feel the huge loss in this disaster and desire to see something new built in its place. Please approve the plans so that Echo Ranch can move forward to build back from this disaster and, through a new building, create even more opportunities for kids and adults from across southeast Alaska to have amazing experiences at camp.

From: Hannah Werthman
To: PC_Comments
Subject: FZE20260001 – Public Comment in Support of Gym Rebuild Exemption
Date: Tuesday, March 31, 2026 4:05:04 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Dear Planning Commission Members,

I am writing to express my strong support for granting the exemption request (FZE20260001) to allow the rebuilding of the Gym at Echo Ranch.

The Gym has long served as an essential space for the community. It plays a critical role for individuals and groups who participate in camps and retreats, providing a safe and reliable environment for education, team-building activities, and group gatherings. For many visitors, it is a central facility that supports meaningful programming and fosters connection. It has played a vital role in growing my relationship with the lord.

Without the ability to rebuild this structure, there would be a significant impact not only on the organization but also on the many community members and groups who rely on this space. The loss of the Gym would limit opportunities for structured activities, reduce accessibility for retreat participants, and create challenges in safely accommodating programs that depend on an indoor facility. Relocating or replacing this space elsewhere would be difficult and could negatively affect participation and overall program quality.

Granting this exemption would help ensure the continuation of valuable services and experiences that benefit a wide range of community members.

Thank you for your time and consideration.

Sincerely,
Hannah Werthman

From: Dan Werthman
To: PC_Comments
Subject: FZE20260001 - Echo Ranch Bible Camp exemption request
Date: Thursday, April 2, 2026 3:36:59 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Dear Planning Commission members:

I am writing in support of Echo Ranch Bible Camp's request for your commission to grant an exemption to the flood zone enabling them to rebuild their camp gymnasium. I write as a long time supporter of Echo Ranch who has visited and served at the camp a number of times. In that capacity I have personally seen how the camp serves the people of the Juneau community and surrounding areas and how the gymnasium is an important part of that. I have served out at camp as various groups from the community come out for retreats and as kids from all over Southeast Alaska come for a week of summer camp. The gymnasium provides essential space for indoor group activities when the weather doesn't permit them to be comfortably outside. It is a space that retreats and camp groups use for educational classes and team building exercises. It really is an essential part of the camp's ability to serve the community well. Rebuilding the gymnasium will ensure that this positive service to the community will continue in the years to come. So I implore you to please grant Echo Ranch the exemption they need to rebuild this gymnasium structure on its present site. Thank you for taking the time to read this message.

Sincerely and respectfully,
Rev. Daniel E. Werthman

From: Angie Regier
To: PC_Comments
Subject: Public Comment for FZE2026 0001 - Flood Zone Exception at Echo Ranch
Date: Friday, March 27, 2026 10:38:40 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Hello, I am writing to publicly comment on the flood zone exception requested at Echo Ranch. I think the exception should be granted. Echo Ranch serves around 1,000 Southeast Alaska children each summer and about the same amount of Southeast residents for retreats in the spring and fall. For each of these people who come to camp or a retreat, the gym has served as the one large, dry space that serves as a place to sort luggage before going to cabins, an open area for kids to run around when it's raining and play basketball, a game room for pool and other games, and a craft room for kids. It would be extremely difficult to provide quality service to the public without a space like that.

Echo Ranch does not just cater to the kids of Southeast Alaska. Several of our community members, mostly from Juneau, come out for retreats in the spring and fall. The Becoming Outdoor Women retreat put on by Alaska Fish and Game is one of the largest retreats and they utilize almost every square inch of the property to offer their many classes to the women who come out to learn skills and have a weekend away with other women. A big part of their space used was always the gym and they need that space to put on their programming to its fullest. Other groups who use Echo Ranch (and the gym space) from the community are Girl Scouts, school groups, one of the karate dojos, and several church groups. This is all besides the 1,000 children from Southeast, mostly Juneau kids, who come out for summer camps. Not having a gym structure this summer would hurt all of them.

With the collapse, all of that space is gone, but there remains a perfectly good piece of concrete. With Echo Ranch opening to the public in about a month, there is not time to build an entirely new structure in a new space outside of the proposed flood zone and a temporary structure on top of the existing concrete slab is the only way that these needed areas can be preserved and utilized for this year's retreat and camp season.

Echo Ranch needs to be allowed to put up a temporary structure on the existing concrete slab in enough time to use it for spring retreats.

Thank you,
Angie Regier

From: Westrate, Allison
To: PC_Comments
Subject: Temporary structure Echo Ranch
Date: Monday, March 30, 2026 12:31:47 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

I have many fond memories of Echo Ranch from 2006 and 2007. The beauty of the location was breath taking. However, the amount of rain was also overwhelming. The facilities including the gym structure provided a much needed respite from the rain. Having a place for the kids to get their energy out, have fun and learn teamwork in spite of the rain was so helpful. Human foosball, giant bouncy balls and carnival games for the youngest campers were some of the highlights in that building. Please consider the petition for a temporary structure to be built as Echo Ranch continues to serve the children of SE AK.
Allison Westrate

From: Maximus Johnson
To: PC_Comments
Subject: Echo Ranch Gym
Date: Wednesday, April 1, 2026 8:38:24 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Hi, my name is Max Johnson and I live here in Juneau. I am reaching out regarding the decision on whether or not Echo Ranch can rebuild their decades old gym that collapsed under snow accumulation this winter.

The gym at Echo Ranch is one of the most critical buildings on the campus. It is storage during the winter months, but more critically it is a warm dry place for campers to play together and enjoy fellowship when the weather is bad.

As someone who works in the construction industry, I can understand the logic/ liability perspective the city is taking here. I don't know the full extent of the situation, but as someone who as made a lot of great memories and seen others make great memories in this building, I would ask that the city hear and consider any sort of compromise that either party can put forward to get this facility rebuilt.

Thank you for your time and consideration,

Max

From: E&A Hotchkiss
To: PC_Comments
Subject: FZE20260001
Date: Thursday, April 2, 2026 11:13:38 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Planning Commission:

I am writing in support of you approving the Echo Ranch Gym Waiver. As you know the Gym collapsed this winter and Echo Ranch is trying to rebuild the Gym or find a temporary solution. This building serves many different groups from youth groups, girl scouts, summer campers, retreat groups, educational groups like becoming an outdoor woman etc. It serves as a safe and dry space out of the elements in southeast Alaska when groups are using the camp.

The hardship this will place on the users of the camp will be significant. As you can imagine, weather can play a significant role in a group's ability to complete what they set out to accomplish, such as a team building or educational session. Having this building approved will help make the sessions happen. I urge you all to approve the waiver to allow this building to be rebuilt in a flood zone.

Thank you,

Eric Hotchkiss

From: Barbara Sandberg
To: PC_Comments; Forrest Courtney
Subject: Case: FZE2026 0001; Parcel: 3B4501000041
Date: Monday, March 30, 2026 3:40:53 PM
Attachments: Camp Letter.pdf

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

PO Box 211206

Auke Bay, AK 99821

March 31, 2026

Forrest Courtney

155 Heritage Way

Juneau, AK 99801

Please expedite any permits needed for Echo Ranch Bible Camp to rebuild the gym that was destroyed by this winter's unusually deep snowfall. The gym is an integral part of the function of this camp that serves over 1,000 kids a year from our community at summer camps, many groups during Fall and Spring retreats and countless school kids who have learned outdoor skills at this camp. Time is of essence as the camp season is quickly approaching and the speediest way to get camp underway is to rebuild the gym on the current cement slab. (I understand there are already plans to rebuild a new gym outside of the new flood zone but its not possible for that to be ready this camp season.)

The camp serves many kids in our town but what stands out to me is the number of low-income and foster kids who would return to school every fall that I worked for the District stating that the best part of their summer break was going to Echo Ranch Bible Camp. At camp, they were 'just a kid' and loved.

Thank you,

Barbara Sandberg

Re: FZE2026 0001

Parcel N: 384501000041

From: bjepperly
To: Forrest Courtney
Cc: PC_Comments
Subject: Echo Ranch Bible Camp Flood Zone Exception Letter
Date: Sunday, March 29, 2026 9:07:14 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Bobbi Epperly
PO Box 34358
Juneau, AK 99803
bjepperly@proton.me
3/29/26

City and Borough of Juneau Planning Commission
155 Heritage Way
Juneau, AK 99801

RE: Flood Zone Exception Support – Replacement Gym at Echo Ranch

Case No. FZE2026 0001

Parcel No. 38501000041

Dear Members of the Planning Commission,

I am writing to express my strong support for granting a flood zone exception to allow the construction of a replacement gymnasium at Echo Ranch Bible Camp, located within the 100-year flood plain.

This project is not simply an expansion, but a necessary replacement of the previous gym facility that was significantly damaged during this year's record snowfall. The loss of this structure has left a critical gap in the camp's ability to safely and effectively serve its participants year-round.

Echo Ranch plays an important role in the Juneau community by providing youth with a safe, structured, and enriching summer camp experience. The gym has always been a central part of that experience. Given Juneau's frequent and often prolonged rainfall during the summer months, having a dependable indoor facility is essential. Without it, campers are left with limited options for physical activity and group programming during inclement weather. A new gym would restore this vital function, ensuring that camp activities can continue safely and consistently regardless of weather conditions.

In addition to its importance during the summer season, the proposed gym would serve as critical winter storage for camp equipment, supplies, and seasonal materials. The absence of adequate storage following the loss of the previous structure presents ongoing logistical challenges and increases the risk of damage to essential equipment. Reestablishing this space is important for maintaining the camp's operations and long-term sustainability.

Echo Ranch has long been a valued part of the Juneau community, offering generations of youth a place to grow, connect, and thrive. Supporting this replacement gym is an investment in the continued success of a program that provides meaningful benefits to local families.

Thank you for your time and consideration. I respectfully urge the Planning Commission to approve the requested flood zone exception.

Sincerely,
Bobbi Epperly

James Pietan

Aiden Pietan

Esther K. Epperly

_____

From: Marty Lange
To: PC_Comments
Subject: FZE20260001 Echo Ranch
Date: Thursday, April 2, 2026 8:07:41 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

I am writing to request that you consider allowing Echo Ranch to rebuild their gymnasium which collapsed this winter due to snow load.

Echo Ranch is a unique part of Juneau and has been since I was a child in the 1970s. Several generations of children from around Southeast Alaska have enjoyed the summer camp experience in a place that provides a wholesome atmosphere and the opportunity to unplug from modern day life for a few days. Many of the daily activities there encourage children to be outside and play, away from electronics and phones.

As you well know, it rains a lot in Juneau - even in the summer. The gymnasium, like every elementary school in Juneau, provides a place for the children attending summer camp to play on rainy days without getting wet. It also allows people attending retreats in the spring and fall, when camp is not in session, to gather for activities and sessions out of the rain.

If the camp is unable to rebuild the gym, it will be difficult for them to provide a dry place for the children to play on rainy days. It will also cramp the style of those holding retreats, as the camp doesn't have another gathering place where people can gather with mud on their boots and not have to worry about tracking sand or mud into one of the other buiildings.

Please allow Echo Ranch to rebuild their gym so they can continue to provide a respite from the rain for the children attending summer camp and the retreaters other times of the year. These shelters are an essential part of an elementary school campus. Please don't deny Echo Ranch from providing the same to the children attending camp.

Sincerely,

Marty Lange
9999 Silver St
Juneau AK 99801
(407) 810-5968

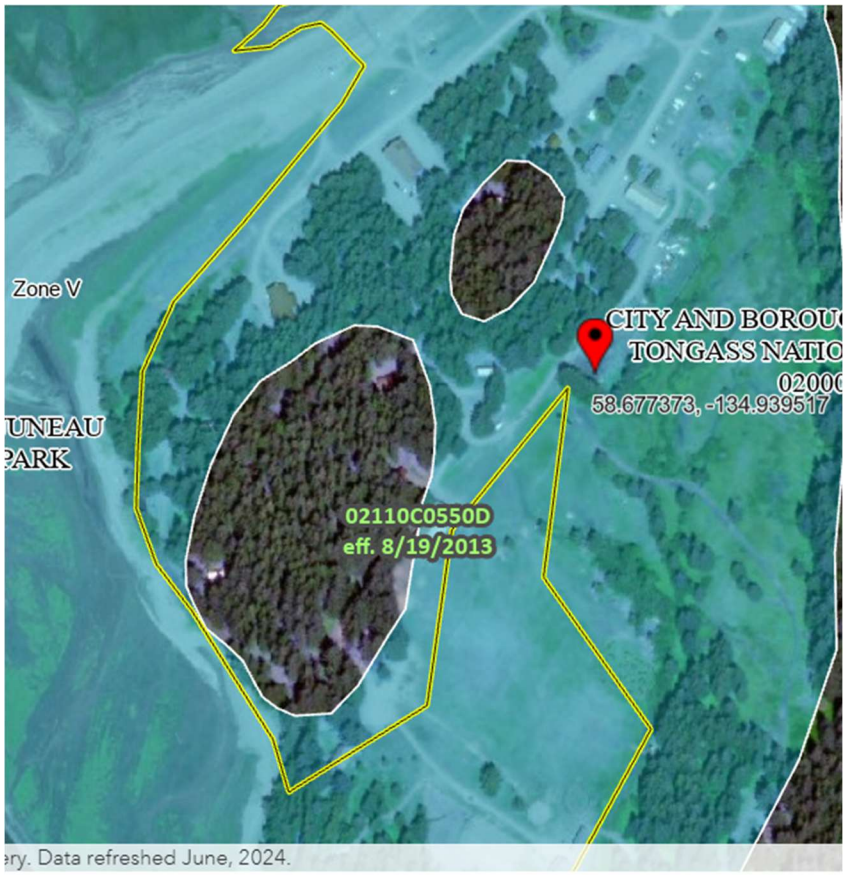
Addendum to FZE20260001

The purpose of this addendum is to clarify the purpose of this structure that we are hoping to build and to add some facts pertaining to the findings in the Community Development Departments report regarding our project. The hoop style building will be in place for no longer than 3 years. We have from the beginning been clear with the Planning Division and Building Division that this is a temporary solution. But due to nomenclature issues, we have taken the word “temporary” out as a temporary structure is classified as one that is up for only 6-9 months.

We have heeded the advice of the planners at the CDD and will build a new permanent engineered steel building across the road from where the old gym was in the AE zone.

We feel that it is prudent to have a temporary solution that can be quickly constructed on the old concrete slab for immediate use while we determine the best layout and orientation for the new structure while minimizing the construction process during our camping season.

The CDD has stated that there are other areas where we could construct this new hoop style structure. But the fact of the matter is that there are no areas in the AE zone that are cleared and flat. If you look at the map of the two AE “bubbles,” all those areas are densely forested. The areas that you can see ground are roads or right around other buildings, mostly camper cabins. In fact, the area we are looking to build the new permanent building on across the road from the current one has around 50 trees that we would need to remove. This takes a lot of equipment and time to get these forested areas prepped and ready to pour concrete. It makes it even harder due to our location. We only just



opened the road around Echo Cove just this week. There is not room for larger equipment to get around. By the time we would be able to have the trees cut down and the area almost prepped for concrete we would have guests on site. This area is right in the middle of all the camper cabins. We do not do large construction projects on the camper side of camp, where all the cabins are located, when guests are on site because it is too dangerous. Building in an area other than the existing slab would not only be a hardship for us, but also for the 350-400 guests we will have on site during this time.

Even further, if we would build across the road with this temporary structure, we would need to eventually clear two spots - one for the new permanent structure and one for the temporary hoop building so we can have a gymnasium while prepping and working on the new permanent structure. This new structure will require an engineered slab, which is way different than the one we would use for the hoop structure. That would be twice as many trees, twice as many days prepping areas for concrete, twice as many distractions for our guests and twice as many opportunities for potentially dangerous situations for our guests. This would also cause us to have to remove at least one if not two of our camper cabins and potentially the camp store. It would be an extreme hardship if we needed to demolish a camper cabin before our guests show up on May 1st while also removing trees and pouring a giant slab when there is a perfectly good one across the road that is partially in an AE zone and partially in a V zone (see picture below). If we were to build on the existing slab, it would speed up the building process from a 6-8 week process down to a 1 week process, which means we could have the building erected before campers show up for the first week of camp. We already have passed the time frame window of having the temporary gym up for our Spring retreat season that starts May 1st.

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020009
USGS, USDA, The National Map: Orthoimagery. March 12, 2025.
Powered by Esri

From: Kelvin Schubert
To: PC_Comments
Subject: Echo Ranch Gym
Date: Friday, April 3, 2026 2:24:14 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

City and Borough of Juneau, Planning Commission
pc_comments@juneau.gov <mailto:pc_comments@juneau.gov>

April 3, 2026

Greetings, CBJ Planning Commission,

I am writing to you because it has come to my attention that there is concern about Echo Ranch Bible Camp replacing their multi-purpose building. As you surely know, it was destroyed, by no fault of their own, as a result of this year's heavy snowfall.

It is disturbing to me that your commission has any question about granting a flood plain waiver to Echo Ranch. You must know that this building has been an essential part of group activities at the camp for years. Living in Southeast Alaska, we all can appreciate the need for indoor protection from the rain and inclement weather.

This summer program has been a part of the fabric of Juneau and all of Southeast Alaska. During my early days living in Petersburg, I understood the joy and excitement expressed about Echo Ranch. It has brought the people who attended together with lifelong friendships, experiences, and growth.

This building, through the years, has been an essential part of life-changing activities through camping, school field trips, adult conferences, and family camp—both religious and secular alike. Without this valued resource, the entire Echo Ranch experience will be negatively impacted for all—not only for the people of Juneau but also for the extended involvement of many individuals across the world. It is for these reasons I am asking the CBJ Planning Commission to grant a building waiver to Echo Ranch, allowing them to replace their activity building—a gym.

Sincerely,
Kelvin Schubert

9332 Turn Street

Juneau, AK 99801

From: Mike Helms
To: PC_Comments
Subject: FZE20260001
Date: Monday, April 6, 2026 11:20:14 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Hello,

I support the exemption requested by Echo Ranch Bible Camp.

The camp has a long-standing impact on Juneau and the southeast, and the building that was destroyed is a part of that, and so were the vehicles inside. The building is one of the main structures used during camp season and, in the winter, provides storage and protection from the elements.

Without the exemption, there would be a great loss to those children from all of Southeast Alaska who attend the camp. Core programming would be missing or changed to be less impactful. In the winter, equipment would take undue damage and wear.

Please allow the exemption for this important camp and for the children who attend and use the structure.

Thank you,
Mike Helms

From: Hannah Callicotte
To: PC_Comments
Subject: Flood Zone Exception for Echo Ranch
Date: Tuesday, April 7, 2026 1:34:45 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Hello,

I'm writing to you about the flood zone exemption at Echo Ranch.
The gym structure is a very important part of the community out there. Many retreat groups use as well as so many kids when they come out to be campers. It is a place to gather and build relationships, letting that happen under a roof out of the rain.

If there's no structure out there, some people may choose to not come out and experience camp and it will be harder for staff as well as it is used for many things.

Regards, Hannah

From: Cheryl Holden
To: PC_Comments
Subject: FZE20260001
Date: Wednesday, April 8, 2026 6:18:21 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

April 8, 2026
City and Borough of Juneau Planning Commission
155 South Seward Street
Juneau, Alaska 99801

RE: Support for Echo Ranch Bible Camp – Temporary Structure Permit

To the Members of the Juneau Planning Commission,

I am writing to express my full and enthusiastic support for Echo Ranch Bible Camp's request to install a temporary structure on their property following the devastating collapse of their gymnasium.

As a resident of Alaska and a mother who deeply values the development of our youth, I believe Echo Ranch is an indispensable part of the Southeast community. For years, the camp has provided a safe, enriching environment where children can engage in physical activity, build social skills, and connect with the natural beauty of our region. The loss of their primary indoor space is not just a logistical hurdle for the camp; it is a loss for the many families who rely on their programs every summer.

I urge the Commission to approve the permit for a temporary structure for several reasons:

- **Community Impact:** Echo Ranch serves a diverse group of youth from across Southeast Alaska. Without an indoor assembly space, many of the camp's essential programs, which foster leadership and character, simply cannot proceed effectively.
- **Urgency:** With the summer season approaching, a temporary solution is the only way to ensure that hundreds of children do not miss out on these vital experiences while the camp undergoes the lengthy process of permanent rebuilding.
- **Proven Stewardship:** Echo Ranch has a long history of being a responsible and respectful neighbor. Allowing them this temporary measure is a practical way to support a ministry that has poured so much back into our community, for generations.

In our family, we understand the importance of providing children with spaces where they can grow through adventure and mentorship. Echo Ranch has been a blessing to so many, and helping them continue their mission during this difficult transition is, in my view, in the best interest of Juneau's youth and families.

Thank you for your time and for considering the positive impact this approval will have on our community.

Sincerely,

Cheryl Holden

--
Cheryl J. Holden

From: Michelle Jones
To: PC_Comments
Subject: FZE20260001
Date: Wednesday, April 8, 2026 8:51:57 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Dear Planning Commission,
I'm writing in support of Echo Ranches request/submission for a temporary structure while they plan and rebuild their gym.

Echo Ranch has been an integral part of our community for over sixty years. Generations of youth and community members of all ages have been served by Echo Ranch. Kids have amazing experiences in summer that doesn't include screens & parents can rest easy their kids are safe & having fun.

In a community strapped for child care options parents, loosing Echo Ranch as an option would be a hard pill to swallow. While most of the activities at Echo Ranch are designed to be outside, as Juneauites we all know our weather doesn't always cooperate. The gym is key infrastructure for Echo Ranch.

Echo Ranch has a proven track record of service to our community. It is my hope the Planning Commission can work with them so they can continue to serve the community while they work through replacing the gym that was damaged in our record breaking snow season.

Thank you for your consideration.

Sincerely,

Michelle Jones

Sent from Michelle's iPhone.

From: Parker Schroeder
To: PC_Comments
Subject: FZE20260001
Date: Wednesday, April 8, 2026 9:16:34 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Dear Members of the Planning Commission,

I am writing to express my strong support for the requested exemption that would allow the construction of a temporary gym structure at camp following the collapse of the Diller Fieldhouse this winter.

The gym has long served as a critical, multi-purpose space for the many community members who rely on camp programs throughout the year. It provides a safe, weather-protected environment for youth activities, educational programming, team-building exercises, and large-group gatherings. In a place like Juneau, where rain is as sure as death and taxes, having a dependable indoor space is essential to ensuring that these programs can operate safely and effectively.

Without a gym, there is a significant hardship placed on both camp staff and the community groups they serve. Many retreats and youth programs depend on access to a large indoor facility to meet their program goals. The loss of this space limits the types of activities that can be offered, reduces program capacity, and in some cases may prevent groups from participating altogether. Additionally, relocating these functions elsewhere is not a practical solution, there is not another structure at Echo Ranch that can provide the same functions as the gym, especially with most group sizes exceeding 100 people.

The proposed temporary structure would help restore critical functionality while longer-term solutions are explored. Granting this exemption would directly support the continuation of valuable programs that serve a wide range of community members, especially youth. I know first hand that Echo Ranch has literally saved lives, as youth who are suffering from depression and suicidal tendencies have found hope, love, and acceptance while at camp and from the camp staff.

The benefits that Echo Ranch provides for our youth cannot be overstated. It is a place where they disconnect from technology, escape the everyday stresses and hardships that children face in our world today, and they get to simply be kids. Echo Ranch provides young people with valuable opportunities for social, emotional, and physical growth. It helps them build friendships and develop important social skills like communication, teamwork, and conflict resolution in a supportive environment. Camp also fosters confidence and independence as youth try new activities, take on challenges, and learn to make decisions on their own. Through these experiences, they build resilience, adaptability, and a sense of responsibility. In addition, camps promote physical activity and healthy habits through sports and active play. Just as importantly, camp connects young people to their community and to the natural world, helping them develop a sense of belonging, stewardship, and personal growth that extends far beyond their time at camp.

Anything that the city can do to encourage and support Echo Ranch should be accomplished. They already suffer from the bureaucracy of city codes and regulations, while not reaping the benefits of being a part of the City and Borough of Juneau (lack of infrastructure, too far out for the fire department to respond to a fire, to name just a few examples). The city should not continue to increase the burden of red tape on Echo Ranch by not allowing this structure to go up. Common sense also dictates that you approve this exemption (hydro static rebound), and any other course of action is asinine and will continue to prove to the community that the city is out of touch with matters to its people.

Thank you for your time and consideration.

Sincerely,
Parker and Naomi Schroeder

From: Bonnie Webster
To: PC_Comments
Subject: FZE20260001
Date: Thursday, April 9, 2026 1:33:35 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

To whom it may concern:

I am writing as a Juneau resident in support of Echo Ranch's temporary structure proposal.

I have personally utilized Echo Ranch's facilities many times over the past several years, including participating in the Becoming an Outdoors Woman (BOW) program. Through these experiences, I have seen firsthand how essential the gym structure is to the operation of the camp.

The gym is not just an accessory building, it is a central, functional space that supports programming, provides shelter during inclement weather, and allows events and workshops to continue safely and effectively. For programs like BOW, which rely on both indoor and outdoor instruction, this space is critical.

The recent loss of the gym has already impacted the ability of Echo Ranch to operate at full capacity. Preventing even a temporary structure from being rebuilt creates a significant barrier to continuing these programs, which serve a wide range of community members and visitors.

While I understand the need to consider flood zone regulations, I strongly encourage the Commission to also weigh the practical realities and community value of this facility. Echo Ranch has a long history of responsible use of its property, and a temporary structure would allow them to continue providing important services while longer-term solutions are evaluated.

I respectfully ask that you support a path forward that allows Echo Ranch to restore this essential space.

Thank you for your consideration.

Sincerely,

Bonnie Webster
17260 Point Lena Loop Rd
Juneau, AK 99801

From: Brent Wittmer
To: Forrest Courtney; PC_Comments
Subject: Echo Ranch Bible Camp Flood Zone Exemption
Date: Thursday, April 9, 2026 1:07:49 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Hi Forrest,

I am writing to express support for the Flood Zone Exemption submitted by Echo Ranch, which would enable the camp to rebuild a structure in the place of their gymnasium, which collapsed under the load of this December's historic snow storms.

As you likely, Echo Ranch is a treasured Juneau institution that has had a significant, positive impact on our community and other communities throughout Southeast through summer camps, retreats, and events such as ADF&G's Becoming an Outdoors-Woman workshop, which will take place at the camp this May. It seems almost every family in Juneau has a connection to, and an affection for, the special organization and place that is Echo Ranch Bible Camp.

The camp's gymnasium structure is a critical piece of the camp's infrastructure and will be necessary for the approaching season. Because the structure was destroyed this past December, a flood plain exemption will be required for them to rebuild on its footprint.

As a Juneau resident, I ask that the planning commission please expeditiously approve Echo Ranch's exemption request at next week's planning commission hearing to give the camp adequate time to acquire and build the structure ahead of the rapidly approaching 2026 camp and retreat season.

I greatly appreciate the Commission's support for this important project.

Sincerely,

Brent Wittmer
907-957-7073

From: Keegan Hotchkiss
To: PC_Comments
Subject: The gym
Date: Thursday, April 9, 2026 10:55:05 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Hello this is Keegan Hotchkiss I writing a note on the behalf about the Gym that collapsed at the Echo Ranch bible camp that shelter at echo ranch meant a lot to them and to all of the kids that Gose out there to have fun and played a lot of game and do a lot of stuff out there like doing a bible study in the loft like playing games like playing the the golf cart and like storing the campers luggage that gym meant a lot to them if it is your will have have a temporary shelter that will have like playing game
Sent from my iPad

From: Lauri Bitz
To: PC_Comments
Subject: FZE20260001
Date: Thursday, April 9, 2026 6:31:29 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

To Whom It May Concern,
I am writing this email in support of letting Echo Ranch Bible Camp (ERBC) build a temporary building where the old gym collapsed under snow load this past winter. I also support them being able to build another permanent structure as they are able.

ERBC has served Southeast Alaska children for well over 60 years. They also serve educational and community groups and they all have used the gym frequently. I travel for my job all over SE Alaska and whenever I wear an ERBC sweatshirt I inevitably have people say, “Oh! I went to that camp when I was a kid! It was a blast!”

It would be unfortunate if politics interfered with an organization that has such a positive impact on thousands of children and community members over the course of decades.

Please let them build on the same footprint as the old building.

Thank you for considering my feedback.

Lauri Bitz
Juneau Resident

From: Sherrie Jo
To: PC_Comments
Subject: FZE20260001
Date: Thursday, April 9, 2026 9:42:59 PM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

I am writing to encourage you to grant permission for Echo Ranch Bible Camp to erect a covered dry structure for use this summer for camps and retreats. Over many years, all of my children and grandchildren have been to summer camp there and are registered for camp again this summer. With our area's very wet weather, having a large dry space for their many activities is most important for their camp experience.
I also use the gym space for children's classes and games each year at our church family camp. There is no other indoor space at Echo Ranch that is big enough for the group activities we do while there.
I sincerely hope you are able to understand this very important need and urge you to grant permission for a structure to be erected in time for camps this year.
Thank you for your consideration.
Sherrie Ewing

From: Liesel Wittmer
To: PC_Comments
Subject: FZE20260001
Date: Friday, April 10, 2026 8:19:08 AM

EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS

Dear Planning Commission,

I'm writing to ask that you grant a flood zone exemption for the building of a gym on Echo Ranch Bible Camp's property - to replace the gym that was destroyed in December's storm.

Echo Ranch is of great benefit to the community, both with their summer camps and numerous retreats serving the public schools, scout groups, and so many adults as well. This gym is hugely important to what they do - as we know the weather in SouthEast isn't reliable and space in Juneau for large groups can be limited, so having a large space for campers and retreatants to engage in activities is necessary for the functionality of the organization.

Thanks so much for your consideration.
Best,
Liesel Wittmer