



**PLANNING COMMISSION STAFF REPORT  
MAJOR SUBDIVISION SMF2022 0003  
HEARING DATE: FEBRUARY 14, 2023**

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

**DATE:** February 3, 2023  
**TO:** Michael LeVine, Chair, Planning Commission  
**BY:** Irene Gallion, Senior Planner  
**THROUGH:** Jill Maclean, Director, AICP

**PROPOSAL:** Applicant requests a final plat review for Chilkat Vistas Phase II creating 13 lots and 3 tracts in a D15 zone.

**STAFF RECOMMENDATION:** Approval with Conditions

**KEY CONSIDERATIONS FOR REVIEW:**

- Preliminary plat approved (SMP2021 0004)
- Bonding is in progress.
- Comments from CBJ's General Engineering (GE) will be addressed before plat finalization.

**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:**

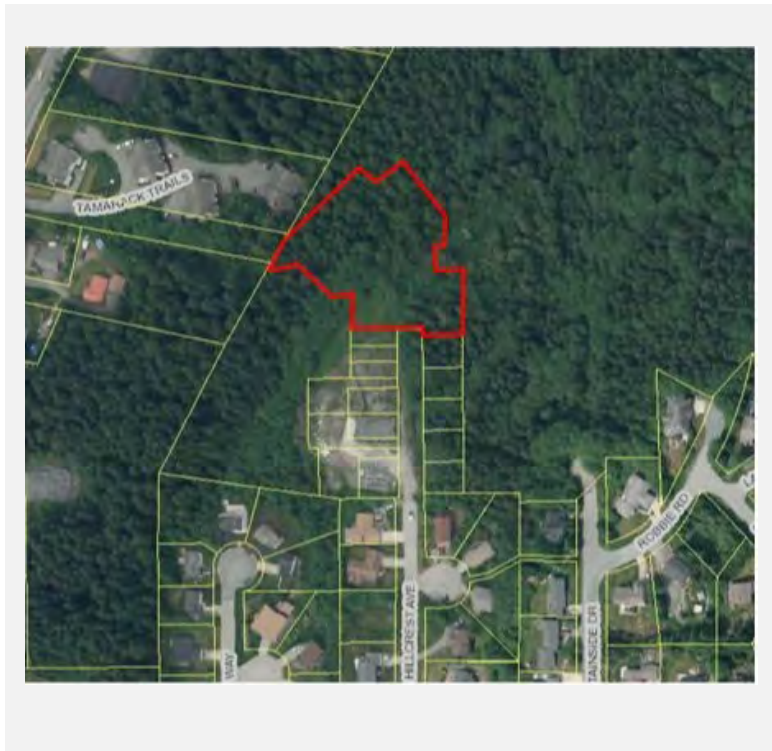
- Quasi-judicial decision
- Requires five (5) affirmative votes for approval
- Code Provisions:
  - CBJ 49.15
  - CBJ 49.55
  - CBJ 49.80

GENERAL INFORMATION	
<b>Property Owner</b>	Michael and William Heumann
<b>Applicant</b>	Michael and William Heumann
<b>Property Address</b>	Hillcrest Ave.
<b>Legal Description</b>	Chilkat Vistas Tract A
<b>Parcel Number</b>	7B1001160011
<b>Zoning</b>	D15- Multi-Family (MF)
<b>Lot Size</b>	1,242,513 square feet, 28.5242 acres
<b>Water/Sewer</b>	CBJ
<b>Access</b>	Hillcrest Ave
<b>Existing Land Use</b>	Vacant
<b>Associated Applications</b>	BLD2022 0665 (Grading)

***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)	Vacant
South (D15)	Residential
East (RR)	Vacant
West (D15)	Residential

SITE FEATURES	
Anadromous	No
Flood Zone	No
Hazard	None mapped
Hillside	Yes
Wetlands	Yes (fill is permitted)
Parking District	No
Historic District	No
Overlay Districts	No

**BACKGROUND INFORMATION**

**Project Description** – The Applicant proposes a final plat creating 13 lots and 3 tracts (**Attachment A**). Subdivision had preliminary approval under SMP2022 0004 (**Attachment B**).

Conditions are proposed for two outstanding items:

- Bonding is in process. The final plat (Mylar) cannot be signed by the Chair of the Planning Commission until the bonding is completed [CBJ 49.15.402(g)(1)].
- Comments from GE need to be addressed, and do not impact Title 49 decisions.

**Background -**

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

Item	Summary
PAC2020 0064	Pre-application conference for Phase II
SMP2019 0004/SMF2020 0001	Phase I of Chilkat Vistas subdivision
SMP2021 0004	Preliminary Plat Approval for Phase II
BLD2022 0665	Grading permit for initial Phase II work: remainder will be covered under bonding.

**ANALYSIS**

**Compliance with Title 49** - No substantive changes were made to the plat since approval of SMP2021 0004. The plat complies with Title 49.

**Preliminary Plat Conditions of Approval -**

Condition	Status	Summary
1. Provide a wetlands fill permit from the United States Army Corps of Engineers.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Unmet <input type="checkbox"/> On-going	Attachment A, Page 5
2. Prior to approval of the final plat, Certification from the CBJ Treasurer is required showing that all real property taxes and special assessments levied against the property for the year of recording have been paid.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Unmet <input type="checkbox"/> On-going	Attachment C
3. Prior to approval of a final plat, the applicant shall submit a complete set of construction plans for all required improvements to the Community Development Department for review by the Director of Engineering & Public Works for compliance with CBJ 49.35.140.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Unmet <input type="checkbox"/> On-going	Attachment D
4. Prior to approval of the final plat, the applicant has constructed all required improvements or provided a financial guarantee in accordance with CBJ 49.55.010.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Unmet <input type="checkbox"/> On-going	Attachment E, in process.
5. Prior to approval of the final plat, the developer shall submit a final drainage plan to be approved by CBJ Engineering & Public Works. This drainage plan must be prepared by an Alaskan licensed engineer in accordance with CBJ 49.35.510.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Unmet <input type="checkbox"/> On-going	Attachment F

GE proposed plat edits during review of the draft dated January 24, 202 . **(Attachment G)**. Proposed edits regard plat legibility.

By January 30, 2023 the Applicant anticipates rough excavation and placement of base rock. Utilities to lots 15-19 were installed prior to required Phase 1 paving. Bonding will be required for the remainder of the improvements. A flow chart for required bonding is presented in **Attachment H**.

The Applicant has expressed interest in using lots created under this subdivision for bond surety. CBJ cannot yet accept the lots created from this subdivision for surety because the lots do not legally exist until a final plat has

been recorded. The Department of Law has reviewed and approved documents for cash surety under a performance bond or deposit in escrow [CBJ 49.55.010(3),(4)], (Attachment E). A reconveyance agreement [CBJ 49.55.010(5)] can be entered into after the subdivision is recorded and a CBJ parcel number assigned.

The Commission Chair will sign the final plat after the requirements of Title 49 have been met, including edits required by GE and bonding documentation [CBJ 49.15.402(g)(1)].

**Conditions:**

**Condition 1:** Bonding will be fully executed before the Chair of the Planning Commission signs the final plat.

**Condition 2:** CBJ General Engineering comments on the Applicant’s draft plat dated January 24, 2023 must meet GE’s requirements before the Chair of the Planning Commission signs the final plat.

**AGENCY REVIEW**

CDD conducted an agency review comment period between December 21, 2022 and January 23, 2023. Proposed final plat edits are included in **Attachment G**. Fire Marshall comments are in **Attachment I**.

<b>Agency</b>	<b>Summary</b>
CBJ GE	Edits to the final plat submitted.
CBJ CCFR	Nothing to add at this time

**PUBLIC COMMENTS**

CDD conducted a public comment period between January 4, 2023 and January 30, 2023. Public notice was mailed to property owners within 500 feet of the proposed subdivision (**Attachment J**). A web site was created to share basic information with the public (<https://juneau.org/community-development/short-term-projects>). A public notice sign was also posted on-site two weeks prior to the scheduled hearing (**Attachment K**). There were no public comments submitted at time of writing this staff report.



## **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:** GE proposed revisions to the final plat are not substantive to Title 49 decisions. The inter-departmental bonding process is under way.

**Finding: Yes.** All conditions of preliminary plat approval can be met.

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

**Analysis:** Rough excavation and placement of base is completed. Utilities to lots 15-19 were constructed under Phase 1. The inter-departmental bonding process is under way.

**Finding: Yes.** The applicant is in the process of providing a financial guarantee for construction of required improvements.

**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 49.15.415 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 the final plat review for Chilkat Vistas Phase II creating 13 lots and 3 tracts in a D15 zone.

The approval is subject to the following conditions:

1. Bonding will be fully executed before the Chair of the Planning Commission signs the final plat.
2. CBJ General Engineering comments on the Applicant's draft plat dated January 24, 2023 must meet GE's requirements before the Chair of the Planning Commission signs the final plat.

### **Proposed Motions:**

***If the Commissioner would like to discuss conditions or findings differing from those staff has proposed:***

I move SMF2022 0003 for discussion.

***If the Commissioner would like to accept staff's analysis and findings:***

I move the Commission accept staff findings and analysis, and approve SMF2022 0003, final plat review for Chilkat Vistas Phase II creating 13 lots and 3 tracts in a D15 zone. I ask unanimous consent.

**STAFF REPORT ATTACHMENTS**

<b>Item</b>	<b>Description</b>
<b>Attachment A</b>	Application Packet
<b>Attachment B</b>	Notice of Decision SMP2021 0004
<b>Attachment C</b>	Certificate of Taxes Paid, Copy
<b>Attachment D</b>	Approved Construction Plan
<b>Attachment E</b>	Bonding paperwork
<b>Attachment F</b>	Approved Drainage Plan
<b>Attachment G</b>	Revised final plat, and comments from GE
<b>Attachment H</b>	Bonding flow chart
<b>Attachment I</b>	Abutters Notice
<b>Attachment J</b>	Public Notice Sign



# DEVELOPMENT PERMIT APPLICATION

**NOTE: Development Permit Application forms must accompany all other Community Development Department land use applications.**

To be completed by Applicant	<b>PROPERTY LOCATION</b>		
	Physical Address		
	Legal Description(s) (Subdivision, Survey, Block, Tract, Lot) <i>Chilkat Vistas Tract A</i>		
	Parcel Number(s) <i>7B1001160011</i>		
	<input type="checkbox"/> This property located in the downtown historic district <input type="checkbox"/> This property located in a mapped hazard area, if so, which _____		
	<b>LANDOWNER/ LESSEE</b>		
	Property Owner <i>Michael Heumann w/ Heumann</i>	Contact Person <i>Michael Heumann</i>	
	Mailing Address <i>6000 THANE RD. JUNEAU, AK. 99801</i>	Phone Number(s) <i>971-261-8014</i>	
	E-mail Address <i>chilkatvistas@gmail.com</i>		
	<b>LANDOWNER/ LESSEE CONSENT</b> Required for Planning Permits, not needed on Building/ Engineering Permits		
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 officials and employees of the City and Borough of Juneau to inspect my property as needed for purposes of this application.			
<i>X</i>	<i>[Signature]</i> Landowner/Lessee Signature	<i>12-23-22</i> Date	
<i>X</i>	<i>[Signature]</i> Landowner/Lessee Signature	<i>12/23/22</i> 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 before the scheduled public hearing date.			
<b>APPLICANT</b> If the same as OWNER, write "SAME"			
Applicant <i>SAME</i>	Contact Person		
Mailing Address	Phone Number(s)		
E-mail Address			
<i>X</i>	<i>[Signature]</i> Applicant's Signature	<i>12-23-22</i> Date of Application	

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

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

**INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED**

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

Intake Initials	
Case Number	Date Received





# 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.**

## PROJECT SUMMARY

Number of Existing Parcels 1      Total Land Area 28.52 acres      Number of Resulting Parcels 13 lots 3 tracts

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

NO       YES Case Number \_\_\_\_\_

## TYPE OF SUBDIVISION OR PLATTING APPROVAL REQUESTED

### MINOR DEVELOPMENT

(changing or creating 13 or fewer lots)

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

### MAJOR DEVELOPMENT

(changing or creating 14 or more lots)

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

To be completed by Applicant

## 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	\$ _____			
<b>Total Fee</b>	<b>\$ _____</b>			

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

**INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED**

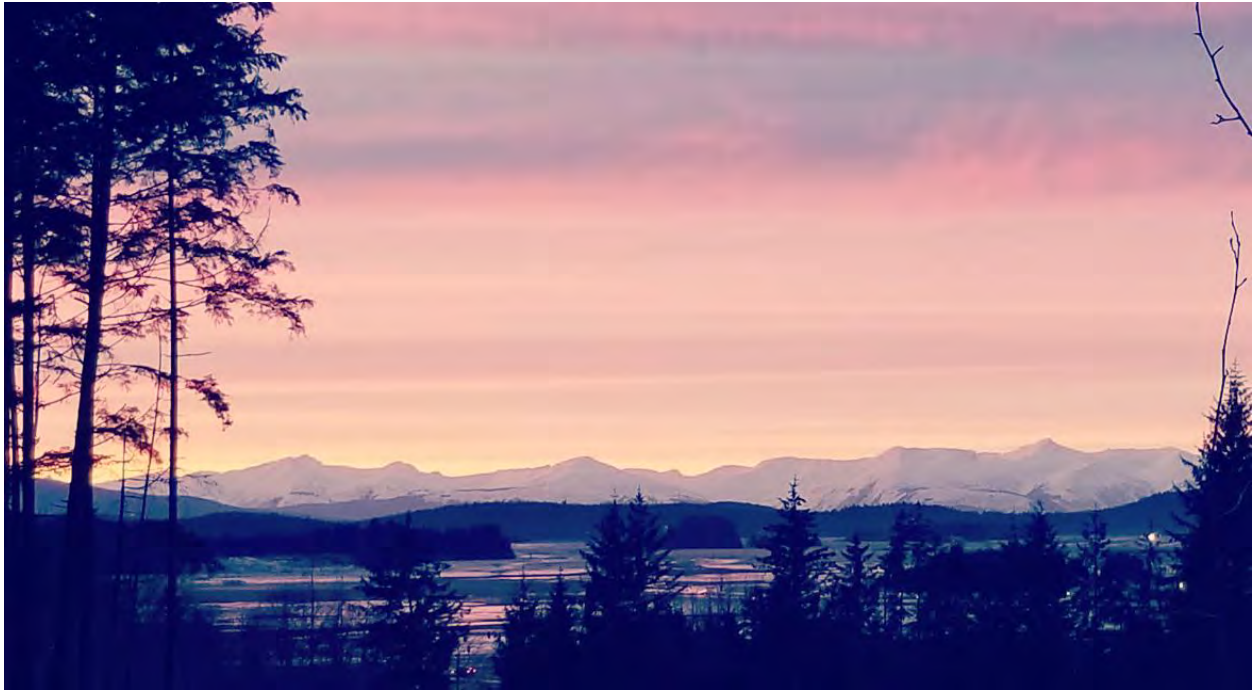
Case Number	Date Received
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Chilkat Vistas LLC

6000 Thane Rd

Juneau, AK 99801

## Chilkat Vistas Subdivision Phase Two



### Final Plat Narrative:

Chilkat Vistas Subdivision Phase Two is a major subdivision of a 28 acre tract, Chilkat Vistas Tract A, into 13 single family lots and 3 large tracts. Of the 13 lots, 4 are standard lots and 9 are bungalow lots. There are no existing structures on the land. Chilkat Vistas Tract A is located in a D-15 Zoning District which allows up to 15 units per acre. Existing access to the tract is available from Glacier Highway via the presently undeveloped Hooter Lane ROW, Hillcrest Avenue, Mountainside Drive, and Robbie Road. Utilities, including water, sewer, power and telecom are available from all access points. There are no unique characteristics of the land. Chilkat Vistas Tract A is on a gentle hillside of varying slopes covered by 2<sup>nd</sup>/3<sup>rd</sup> growth forest.

As required by the preliminary plat SMP 2021 0001 Notice of Decision, we have substantially completed the following conditions:

1. Provide a wetlands fill permit from the United States Army Corps of Engineers.  
Please see that attached permit, POA-2019-00066-M1.
2. Prior to approval of the final plat, Certification from the CBJ Treasurer is required showing that all real property taxes and special assessments levied against the property for the year of recording have been paid.  
2022 taxes have been paid, a check for the estimated 2023 taxes has been sent out.

3. Prior to approval of a final plat, the applicant shall submit a complete set of construction plans for all required improvements to the Community Development Department for review by the Director of Engineering & Public Works for compliance with CBJ 49.35.140.  
Completed construction plans have been approved by EPW, construction of the improvement have begun.
4. Prior to approval of the final plat, the applicant has constructed all required improvements or provided a financial guarantee in accordance with CBJ 49.55.010.  
Improvements are partially constructed and we will be bonding for the rest. We have obtained an appraisal for the Chilkat Vistas Tract A2, resulting from this final plat, that we are working towards using for bonding as part of a conveyance agreement. We also have sufficient cash reserves to bond for the remaining subdivision improvements should the need arise. At present time we understand that CBJ is working through finalizing these agreements.
5. Prior to approval of the final plat, the developer shall submit a final drainage plan to be approved by CBJ Engineering & Public Works. This drainage plan must be prepared by an Alaskan licensed engineer in accordance with CBJ 49.35.510.  
An engineered drainage plan was created by ProHNS as part of our design work for subdivision improvements. It has been approved by EPW.



DEPARTMENT OF THE ARMY  
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
REGULATORY DIVISION  
44669 STERLING HIGHWAY, SUITE B  
SOLDOTNA, AK 99669-7915

July 18, 2022

Regulatory Division  
POA-2019-00066-M1

Mr. William Heumann  
6000 Thane Road  
Juneau, Alaska 99801

Dear Mr. Heumann:

Enclosed is the signed Department of the Army (DA) permit modification, file number POA-2019-00066-M1, Gastineau Channel. This is the 1st permit modification of the original permit. Also enclosed is a Notice of Authorization that 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 Matthew Brody via email at [Matthew.T.Brody@usace.army.mil](mailto:Matthew.T.Brody@usace.army.mil), by mail at the address above, or by phone at (907) 201-5023, if you have questions. For more information about the Regulatory program, please visit our website at [www.poa.usace.army.mil/Missions/Regulatory](http://www.poa.usace.army.mil/Missions/Regulatory).

Sincerely,

*Michael R. Salyer*

Michael Salyer  
Chief, Southeast Section

Enclosures





DEPARTMENT OF THE ARMY  
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
REGULATORY DIVISION  
44669 STERLING HIGHWAY, SUITE B  
SOLDOTNA, AK 99669-7915

July 18, 2022

Regulatory Division  
POA-2019-00066-M1

DEPARTMENT OF THE ARMY  
PERMIT MODIFICATION

Department of the Army permit number POA-2019-00066, Gastineau Channel, was issued to Mr. William Heumann on December 10, 2019, authorizing the placement of fill material into 2.21 acres of forested wetlands to facilitate the construction of a residential subdivision.

This is the 1st modification of the original permit. The permit is hereby modified as follows: The development of 13 additional single-family lots and one larger multi-family lot resulting in the placement of fill material into 0.31-acres of wetlands.

The work will be performed in accordance with the enclosed plans, sheets 1-7, dated November, 2021, which are incorporated in and made a part of this Permit Modification.

The project site is located within Section 5, T. 41 S., R. 67 E., Copper River Meridian; USGS Quad Map Juneau B-2; Latitude 58.345352° N., Longitude -134.490486° W.; located at the end of Hillcrest Avenue, in Juneau, Alaska.

The time limit for completing the work authorized ends on **July 18, 2027**. If you find that you need more time to complete the authorized activity, please submit your request for a time extension to the U.S. Army Corps of Engineers for consideration at least one month before permit expiration.

The following conditions apply to this permit modification:

1. Natural drainage patterns shall be maintained using appropriate ditching, culverts, storm drain systems, and other measures to ensure hydrology is not altered.
2. The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, debris, automotive parts, asphalt, construction materials, concrete blocks with exposed reinforcement bars, and soils contaminated with any toxic substance, in toxic amounts in accordance with Section 307 of the Clean Water Act.

3. The Permittee shall install erosion control measures along the perimeter of all work areas to prevent the displacement of fill material outside the authorized work area. The erosion control measures shall remain in place and be maintained until all authorized work is completed and the work areas are stabilized. Immediately after completion of the final grading of the land surface, all slopes, land surfaces, and filled areas shall be stabilized using sod, degradable mats, barriers, or a combination of similar stabilizing materials to prevent erosion.

4. Within 60 days of completion of the work authorized by this permit, the Permittee shall complete the attached "Self-Certification Statement of Compliance" form (Attachment 3) and submit it to the Corps (U.S. Army Corps of Engineers, Regulatory Division, CEPOA-RD, Kenai Field Office, 44669 Sterling Highway, Suite B, Soldotna, AK 99669-7915). 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.

All other conditions under which the subject authorization was made remain in full force and effect.

This authorization and the enclosed modified plans should be attached to the original permit. Also enclosed is a Notice of Authorization that should be posted in a prominent location near the authorized work.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

*Michael R. Salyer*

Michael Salyer  
Chief, Southeast Section



**This notice of authorization must be conspicuously displayed at the site of work.**

**United States Army Corps of Engineers  
Gastineau Channel**

**A permit to:** The development of 13 additional single-family lots and one larger multi-family lot resulting in the placement of fill material into 0.31-acres of wetlands.

**at:** The project site is located within Section 5, T. 41 S., R. 67 E., Copper River Meridian; USGS Quad Map Juneau B-2; Latitude 58.345352° N., Longitude -134.490486° W.; located at the end of Hillcrest Avenue, in Juneau, Alaska.

**has been issued to:** Mr. William Heumann

**on:** July 18, 2022 **and expires on:** July 18, 2027

**Address of Permittee:** Mr. William Heumann, 6000 Thane Road, Juneau, Alaska 99801

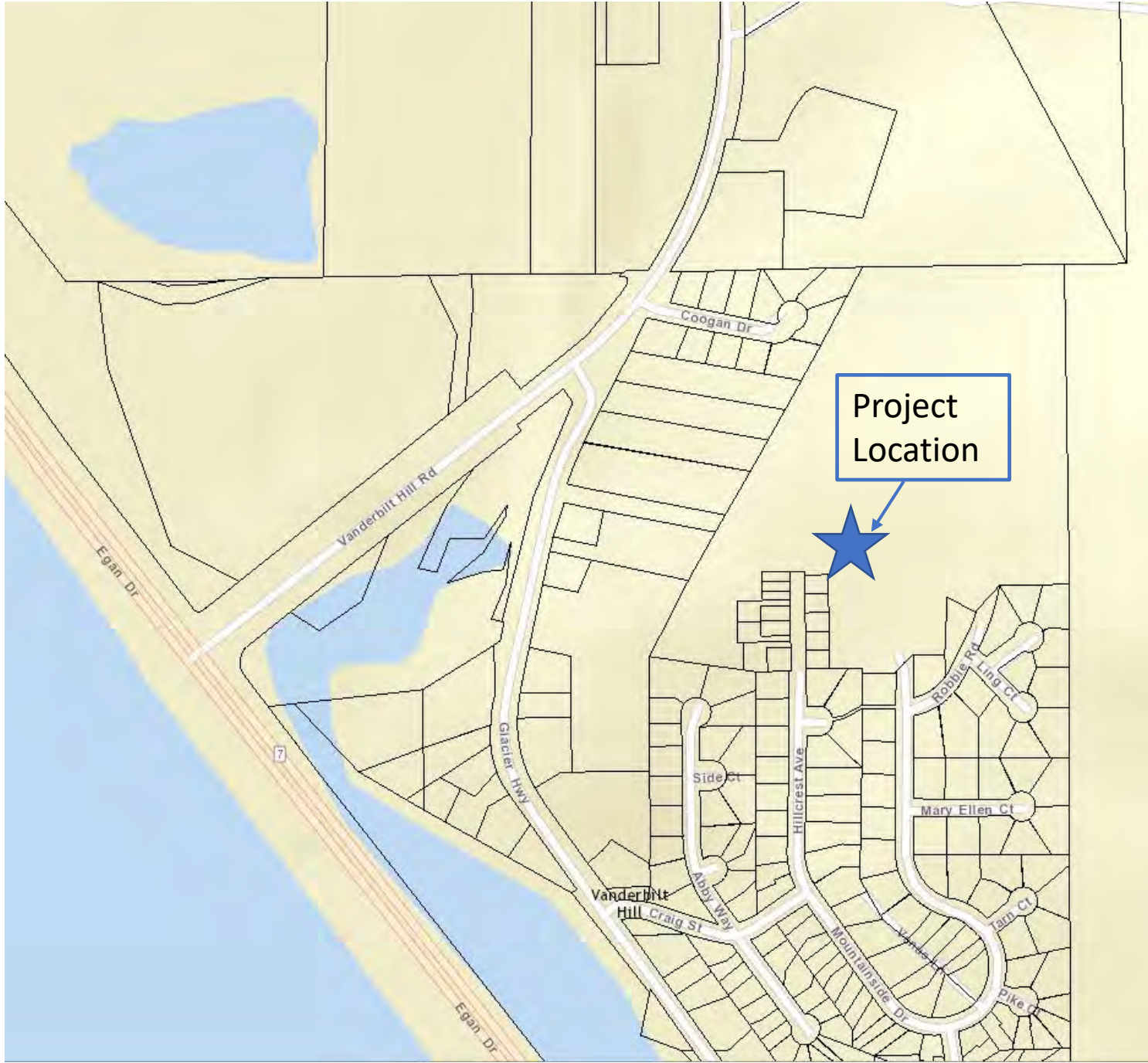
**Permit Number:**

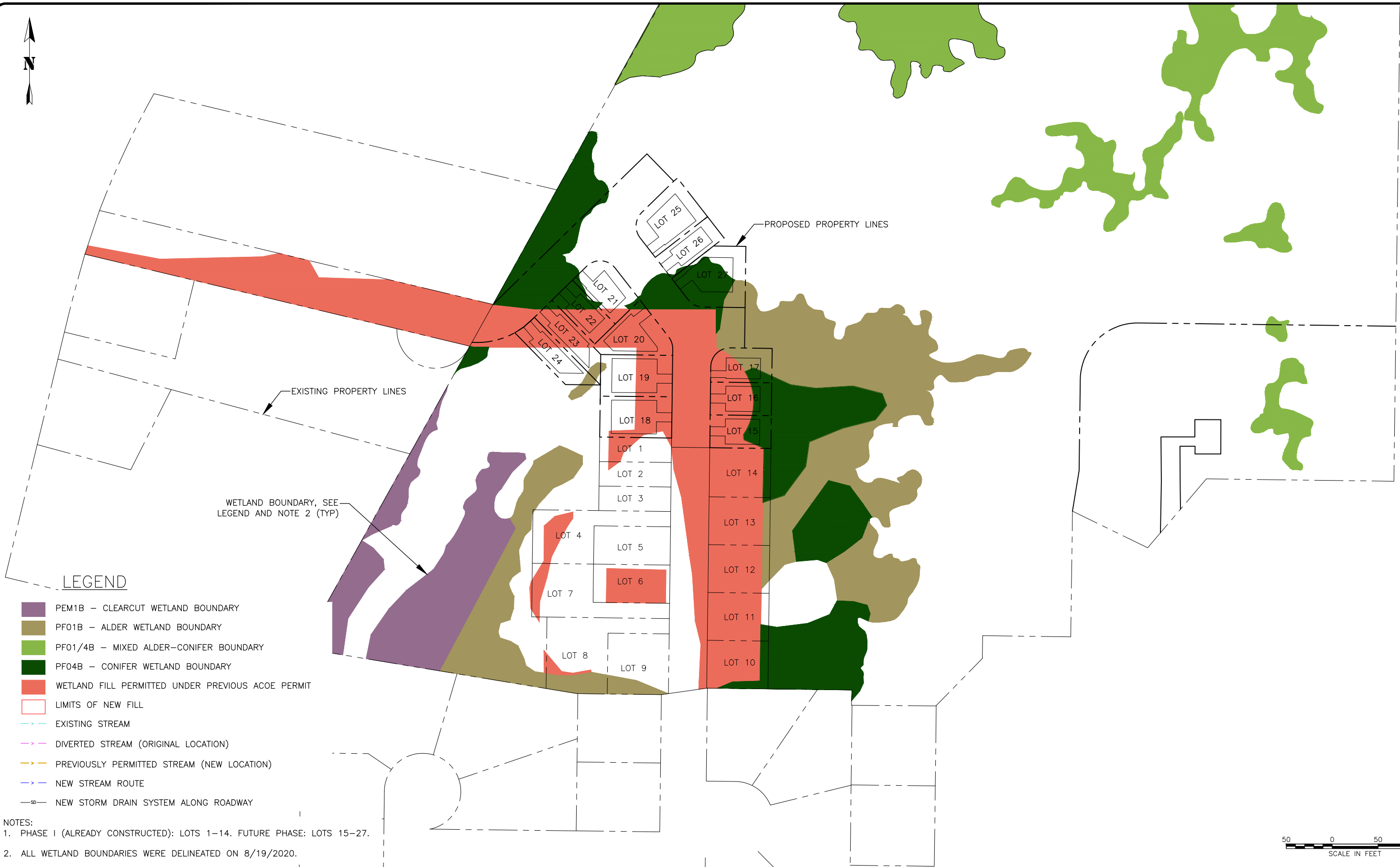
POA-2019-00066-M1

*Michael R. Salyer*

**FOR: District Commander  
Michael Salyer  
Chief, Southeast Section  
REGULATORY DIVISION**

Vicinity Map:  
Chilkat Vistas South





**LEGEND**

- PEM1B - CLEARCUT WETLAND BOUNDARY
- PF01B - ALDER WETLAND BOUNDARY
- PF01/4B - MIXED ALDER-CONIFER BOUNDARY
- PF04B - CONIFER WETLAND BOUNDARY
- WETLAND FILL PERMITTED UNDER PREVIOUS ACOE PERMIT
- LIMITS OF NEW FILL
- EXISTING STREAM
- DIVERTED STREAM (ORIGINAL LOCATION)
- PREVIOUSLY PERMITTED STREAM (NEW LOCATION)
- NEW STREAM ROUTE
- NEW STORM DRAIN SYSTEM ALONG ROADWAY

NOTES:  
 1. PHASE I (ALREADY CONSTRUCTED): LOTS 1-14. FUTURE PHASE: LOTS 15-27.  
 2. ALL WETLAND BOUNDARIES WERE DELINEATED ON 8/19/2020.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION #100662

DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
 CHECKED BY: L. CHMABERS  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004  
 solutions@proHNS.com  
 www.proHNS.com

**CITY AND BOROUGH OF JUNEAU**  
 ALASKA'S CAPITAL CITY  
 ENGINEERING & PUBLIC WORKS

JUNEAU, AK

**CHILKAT VISTAS  
 WETLAND IMPACTS**

SHEET NUMBER
<b>1</b>
OF
<b>6</b>



**LEGEND**

- PEM1B - CLEARCUT WETLAND BOUNDARY
- PF01B - ALDER WETLAND BOUNDARY
- PF01/4B - MIXED ALDER-CONIFER BOUNDARY
- PF04B - CONIFER WETLAND BOUNDARY
- WETLAND FILL PERMITTED UNDER PREVIOUS ACOE PERMIT
- LIMITS OF NEW FILL
- EXISTING STREAM
- DIVERTED STREAM (ORIGINAL LOCATION)
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RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION  
 #100662

DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
 CHECKED BY: L. CHMABERS  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004  
 solutions@proHNS.com  
 www.proHNS.com

**CITY AND BOROUGH OF JUNEAU**  
 ALASKA'S CAPITAL CITY  
**ENGINEERING & PUBLIC WORKS**

JUNEAU, AK

**CHILKAT VISTAS  
 EXISTING STREAMS**

SHEET NUMBER
<b>2</b>
OF
<b>6</b>

C:\Users\lucas\Dropbox (proHNS)\Projects\Juneau\Richland Manor Subdivision\C3D Richland Manor\Sheets\Hillcrest Extension --Phase II\ACOR Permit\Conceptual Layout\_11.4.21.dwg  
 November 4, 2021





**LEGEND**

- PEM1B - CLEARCUT WETLAND BOUNDARY
- PF01B - ALDER WETLAND BOUNDARY
- PF01/4B - MIXED ALDER-CONIFER BOUNDARY
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 2. ALL WETLAND BOUNDARIES WERE DELINEATED ON 8/19/2020.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION #100662

DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
 CHECKED BY: L. CHMABERS  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
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 solutions@proHNS.com  
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**CITY AND BOROUGH OF JUNEAU**  
 ALASKA'S CAPITAL CITY  
**ENGINEERING & PUBLIC WORKS**

JUNEAU, AK

**CHILKAT VISTAS  
 EXISTING STREAMS  
 TO BE DIVERTED**

SHEET NUMBER
<b>3</b>
OF
<b>6</b>





**LEGEND**

- PEM1B - CLEARCUT WETLAND BOUNDARY
- PF01B - ALDER WETLAND BOUNDARY
- PF01/4B - MIXED ALDER-CONIFER BOUNDARY
- PF04B - CONIFER WETLAND BOUNDARY
- WETLAND FILL PERMITTED UNDER PREVIOUS ACOE PERMIT
- LIMITS OF NEW FILL
- EXISTING STREAM
- DIVERTED STREAM (ORIGINAL LOCATION)
- PREVIOUSLY PERMITTED STREAM (NEW LOCATION)
- NEW STREAM ROUTE
- NEW STORM DRAIN SYSTEM ALONG ROADWAY

NOTES:  
 1. PHASE I (ALREADY CONSTRUCTED): LOTS 1-14. FUTURE PHASE: LOTS 15-27.  
 2. ALL WETLAND BOUNDARIES WERE DELINEATED ON 8/19/2020.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION  
 #100662

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

1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004

solutions@proHNS.com  
 www.proHNS.com

**CITY AND BOROUGH OF  
 JUNEAU**  
 ALASKA'S CAPITAL CITY

**ENGINEERING & PUBLIC WORKS**

JUNEAU, AK

**CHILKAT VISTAS NEW  
 STREAM ROUTES**

SHEET NUMBER	
4	OF
6	



PHASE I (ALREADY CONSTRUCTED): LOTS 1-14  
 FUTURE PHASE: LOTS 15-27



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION  
 #100662

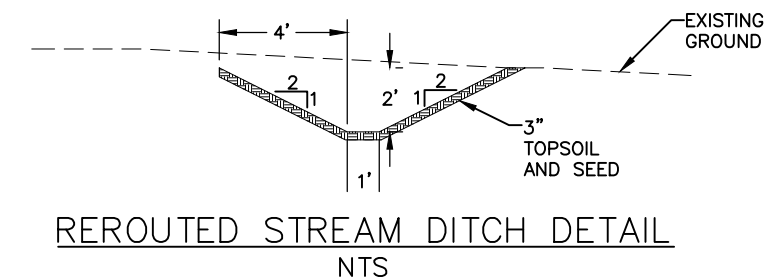
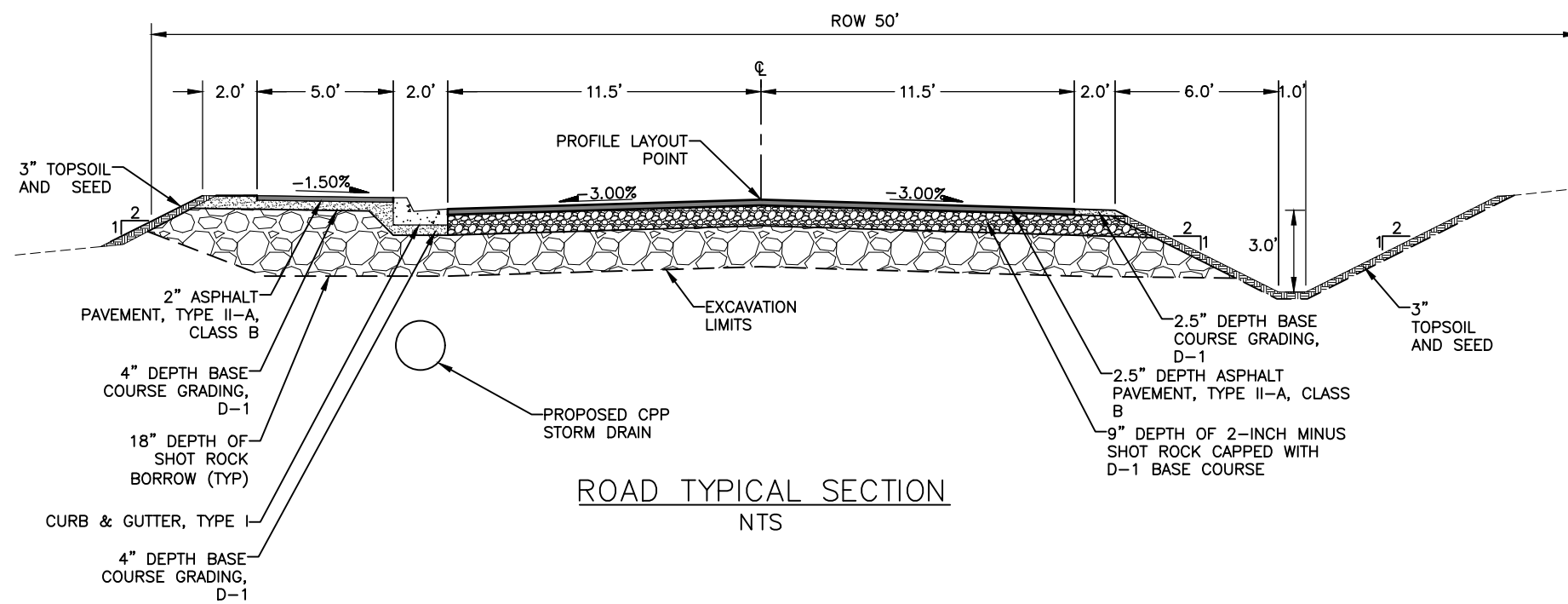
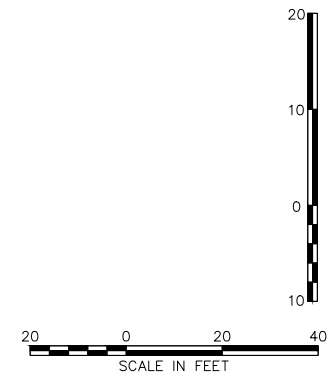
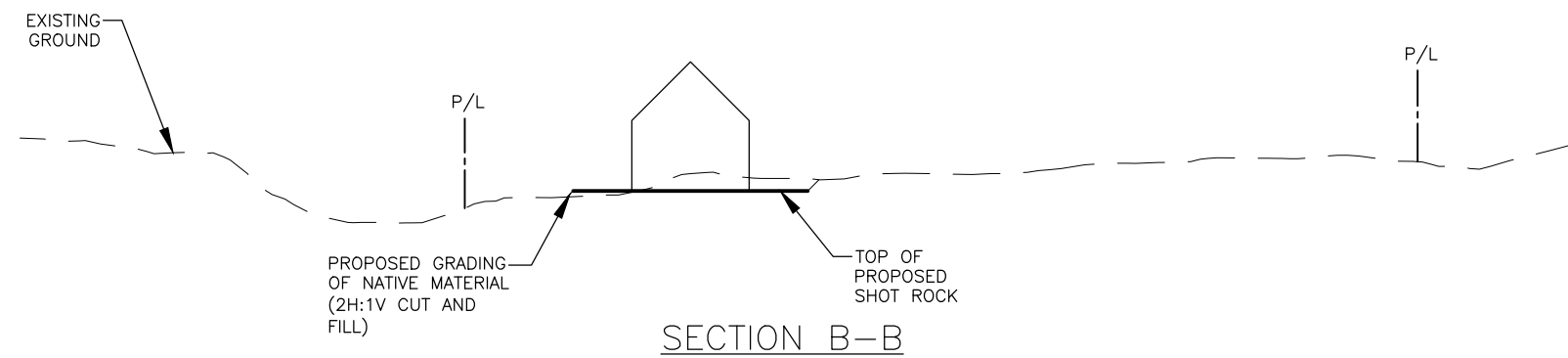
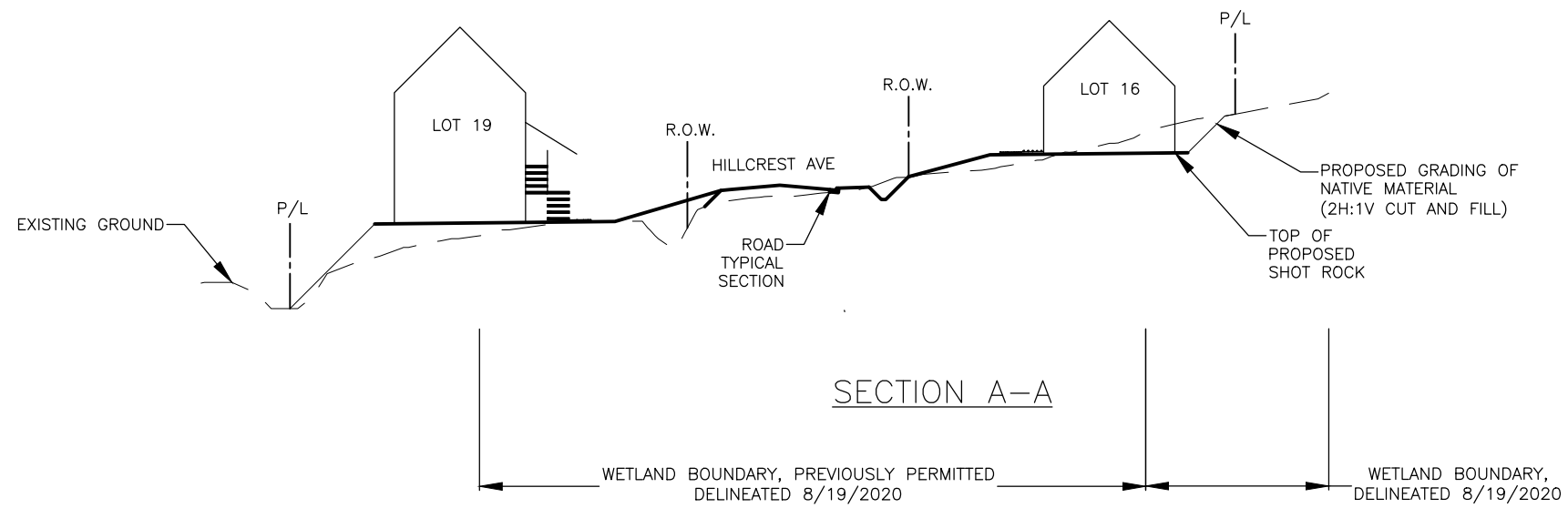
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**CITY AND BOROUGH OF JUNEAU**  
 ALASKA'S CAPITAL CITY  
 ENGINEERING & PUBLIC WORKS

JUNEAU, AK

**CHILKAT VISTAS  
 CONCEPTUAL LOT  
 LAYOUT**

SHEET NUMBER
<b>5</b>
OF
<b>6</b>



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

1945 ALEX HOLDEN WAY #101  
JUNEAU, AK 99801  
(907) 780-4004

CERTIFICATE OF AUTHORIZATION #100662

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

solutions@proHNS.com  
www.proHNS.com

CITY AND BOROUGH OF JUNEAU  
ALASKA'S CAPITAL CITY  
ENGINEERING & PUBLIC WORKS

JUNEAU, AK

CHILKAT VISTAS SECTIONS

SHEET NUMBER	6
OF	6

Lot #	Total Lot Area (sf)	Building Pad (sf)	Excavation Depth (ft)	Excavation Volume (cy)	Shot Rock Depth (ft)	Shot Rock Volume (cy)	2-Inch Depth (ft)	2-Inch Volume (cy)	Concrete/Asphalt Depth (ft)	Concrete/Asphalt Volume (cy)
15	3429	1719	1	63.67	2	127.33				
16	3435	1717	1	63.59	2	127.19				
17	3465	1454	1	53.85	2	107.70				
18	5046	2826	1	104.67	2	209.33				
19	5091	2847	1	105.44	2	210.89				
20	4408	2201	1	81.52	2	163.04				
21	3795	1646	1	60.96	2	121.93				
22	3004	1480	1	54.81	2	109.63				
23	3416	1702	1	63.04	2	126.07				
24	3492	1722	1	63.78	2	127.56				
25	5035	2391	1	88.56	2	177.11				
26	3027	1527	1	56.56	2	113.11				
27	5177	2493	1	92.33	2	184.67				
Driveway and Building Pad	5490	5490	1	203.33	2	406.67				
Combined Lots				1156.11		2312.22				
Roads (hooter/mountainside)	64,722	21600	1	800.00	1.5	1200.00	0.75	600.00	0.21	168.00
Totals:										
Excavation (cy)				1,956						
Shot Rock (cy)				3,512						
2-Inch Rock (cy)				600						
Asphalt/ Concrete (cy)				168						

**SELF-CERTIFICATION STATEMENT OF COMPLIANCE**

**Permit Number: POA-2019-00066**

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

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Mr. William Heumann	File Number: POA-2019-00066	Date: July 18, 2022
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<b>X</b>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

**SECTION I -** The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at [http://www.usace.army.mil/CECW/Pages/reg\\_materials.aspx](http://www.usace.army.mil/CECW/Pages/reg_materials.aspx) or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact:

**Matthew Brody, RS**  
Alaska District Corps of Engineers  
Juneau Regulatory Field Office (CEPOA-RD-SE)  
Post Office Box 22270  
Juneau, Alaska 99802-2270  
(907) 790-4493

If you only have questions regarding the appeal process you may also contact:

Regulatory Program Manager  
U.S. Army Corps of Engineers, Pacific Ocean Division  
CEPOD-PDC, Bldg 525  
Fort Shafter, HI 96858-5440

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

\_\_\_\_\_  
Signature of appellant or agent.

Date:

Telephone number:





THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

**Department of Environmental  
Conservation**  
**DIVISION OF WATER**

Wastewater Discharge Authorization  
Program

February 15, 2022

Michael Heumann  
6000 Thane Rd.  
Juneau, AK, 99801

555 Cordova Street  
Anchorage, Alaska 99501-2617  
Main: 907.269.6285  
Fax: 907.334.2415  
[www.dec.alaska.gov/water/wwdp](http://www.dec.alaska.gov/water/wwdp)

Re: Chilkat Vistas Residential Subdivision  
POA-2019-00066 Gastineau Channel

Mr. Heumann:

In accordance with Section 401 of the Federal Clean Water Act of 1977 and provisions of the Alaska Water Quality Standards, the Department of Environmental Conservation (DEC) is issuing the enclosed water quality certification that the discharge from the proposed project will comply with water quality requirements for the placement of dredged and/or fill material in waters of the U.S., including wetlands and streams, associated with the development of property for residential lots.

DEC regulations provide that any person who disagrees with this decision may request an informal review by the Division Director in accordance with 18 AAC 15.185 or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. An informal review request must be delivered to the Director, Division of Water, 555 Cordova Street, Anchorage, AK 99501, within 20 days of the permit decision. Visit <http://dec.alaska.gov/commish/review-guidance/> for information on Administrative Appeals of Department decisions.

An adjudicatory hearing request must be delivered to the Commissioner of the Department of Environmental Conservation, PO Box 111800, Juneau, AK 99811-1800; Location: 410 Willoughby Avenue, Suite 303, Juneau within 30 days of the permit decision. If a hearing is not requested within 30 days, the right to appeal is waived.

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.

Sincerely,

A handwritten signature in cursive script that reads "James Rypkema".

James Rypkema  
Program Manager, Storm Water and Wetlands

Enclosure: 401 Water Quality Certificate

cc: (with encl.)  
Mathew Brody, USACE, Anchorage

Kate Kanouse, ADF&G/Habitat, Anchorage  
Juneau USFWS Field Office  
Matthew LaCroix, EPA, AK Operations

**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 is issued to Michael Heumann, 6000 Thane Rd. Juneau, AK, 99801 that the discharge from the proposed project will comply with water quality requirements for the placement of dredged and/or fill material in waters of the U.S. including wetlands and streams. The project proponent is proposing to develop portions of their property consisting of the connection of Hooter Lane and Hillcrest Avenue, the development of 13 single family lots, and one larger multi-family lot. The proposed development would result in the placement of approximately 1,378 cubic yards (CY) of material into 0.39-acres of wetlands. All work would be performed in accordance with the enclosed plan (sheets 1-7), dated November 2021.

A state issued water quality certification is required under Section 401 because the proposed activity will be authorized by a U.S. Army Corps of Engineers permit (POA-2019-00066-M1) and a discharge of pollutants to waters of the U.S. located in the State of Alaska may result from the proposed activity. Public notice of the application for this certification was given as required by 18 AAC 15.180 in the DEC Public Notice from October 13, 2021 to October 29, 2021 and a joint USACE & DEC Public Notice POA-2019-00066 posted from December 23, 2021, to January 21, 2022.

**Project Description and Location**

The applicant's stated purpose is to subdivide a large tract to provide small single family residential lots and multi-family lots to help meet the current need for housing.

The proposed activity is located within Section 5, T. 41 S., R. 67 E., Copper River Meridian; USGS Quad Map Juneau B-2; Latitude 58.345352° N., Longitude -134.490486° W.; located at the end of Hillcrest Avenue, in Juneau, Alaska.

**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 and 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 which may result, will comply with applicable provisions of Section 401 of the CWA and the Alaska Water Quality Standards, 18 AAC 70, provided 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 cleanup 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 contact by telephone the DEC Area Response Team for Southeast Alaska 907-465-5340 during work hours or 1-800-478-9300 after hours. Also, the applicant must contact by telephone the National Response Center at 1-800-424-8802.
3. Construction equipment shall not be operated below the ordinary high-water mark if equipment is leaking fuel, oil, hydraulic fluid, or any other hazardous material. Equipment shall be inspected and recorded in a log daily for leaks. If leaks are found, the equipment shall not be used and pulled from service until the leak is repaired.

### ***Turbidity, Erosion and Sediment Control***

4. 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 <http://dec.alaska.gov/water/wastewater/stormwater/construction>, or call 907-269-6285.
5. 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 gullyng, 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.
6. Include the following BMPs to handle storm water and total storm water volume discharges as they apply to the site:
  - a. Divert storm water 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 storm water 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 water course to prevent erosion and to protect the channel embankment, outlet, adjacent stream bank slopes, and downstream waters.
7. Fill placed during winter construction within wetlands that during the summer contain surface water that is connected to natural bodies of water, must be stabilized, or contained in the spring prior to breakup. This action is to ensure that silts are not carried from the fill to the natural bodies of water in the spring and summer.

8. Prior to fill placement in the spring or summer, a silt fence or similar structure shall be installed on a line parallel to and within five feet of the proposed fill toe of slope within all wetland areas that contain standing water that is connected to any natural body of water or where the fill toe is within 25 feet of such a water body. This structure shall remain in place until the fill has been stabilized or contained in another manner.

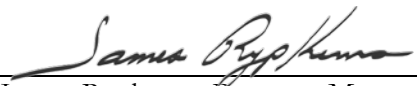
### ***Vegetation Protection and Restoration***

9. Any disturbed ground and exposed soil not covered with fill must be stabilized and re-vegetated with endemic species, grasses, or other suitable vegetation in an appropriate manner to minimize erosion and sedimentation, so that a durable vegetative cover is established in a timely manner.

### ***General***

10. DEC coordinates with several regulatory programs to review the impacts of construction operations. 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 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.
11. 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).
12. 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.
13. If your project is not completed by the time limit specified under USACE Permit and will continue, or for a modification of the USACE permit, you must apply 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: 2/15/2022

  
\_\_\_\_\_  
James Rypkema, Program Manager  
Storm Water and Wetlands



# PUBLIC NOTICE

Alaska Department of Environmental Conservation (DEC)  
Wastewater Discharge Authorization Program/401 Certification  
555 Cordova Street, Anchorage AK 99501-2617  
Phone: 907-269-6285 | Email: [DEC-401Cert@alaska.gov](mailto:DEC-401Cert@alaska.gov)

## Notice of Application for State Water Quality Certification

**Public Notice (PN) Date:** 10/13/2021

**PN Reference Number:** POA-2019-00066

**PN Expiration Date:** 10/29/2021

**Waterway:** Gastineau Channel

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act (CWA) of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the CWA, the Alaska Water Quality Standards, and other applicable State laws.

Notice is hereby given that a request for a CWA §401 Water Quality Certification of a Department of the Army Permit application, Corps of Engineers' Reference Number POA-2019-00066, Gastineau Channel, has been received for the discharge of dredged and/or fill materials into waters of the United States (WOUS), including wetlands, as described below, and shown on the enclosed project figures/drawings. The public notice and related project figures/drawings are also accessible from the DEC website at <http://dec.alaska.gov/water/wastewater/>.

Any person desiring to comment on the project with respect to water quality, may submit comments electronically via the DEC public notice site (preferred method) at <https://water.alaskadec.commentinput.com/?id=5Fc3s>

Alternatively, you may direct written comments or requests for public hearing via email or mail to the address listed above by the Public Notice (PN) expiration date. All comments submitted via mail or email should include the PN reference number listed above in the subject heading. Mailed comments must be postmarked on or before the expiration date of the public notice.

**Applicant:** Chilkat Vistas LLC, 6000 Thane Road Juneau Alaska 99801, Michael Heumann, Owner, (971) 261-8014, [chilkatvistas@gmail.com](mailto:chilkatvistas@gmail.com)

**Project Name:** ChilKat Vistas Phase 2

**Location:** The proposed activity is located within Section 34, T. 40 S., R. 66 E.; Latitude 58.356566° N., Longitude -134.488419° W.; in Juneau, Alaska.

**Purpose:** The applicant's stated purpose is to subdivide a large tract to provide small single family residential lots and multi-family lots to help meet the current need for housing.

**Project Description:** The Corps of Engineers approved the discharge of fill material into 2.21 acres of forested wetlands and the re-routing of 837-linear feet of stream to facilitate the construction of the Chilkat Vistas Phase 1 residential subdivision in 2019. This is the first modification to the original permit.

This project will complete construction of the Hillcrest Avenue extension and Hooter lane, as well as provide a roadway connection point to the uplands found in the Northern portion of the tract. This phase of the project includes 15 single family lots and a large multi-family lot which could contain up to 35 units or up to 70 efficiency units. The applicant proposes placement of approximately 1,378 cubic yards (CY) of material into 0.39 acres of WOUS, including wetlands, to construct residential lots to include access roads, utilities, and access to future development.

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After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the CWA, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

The permit application and associated documents are available for review. For inquires or to request copies of the documents, contact [dec-401cert@alaska.gov](mailto:dec-401cert@alaska.gov), or call 907-269-6285.

### **Disability Reasonable Accommodation Notice**

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act (ADA) of 1990. If you are a person with a disability who may need special accommodation in order to participate in this public process, please contact ADA Coordinator Brian Blessington at 907-269-6272 or TDD Relay Service 1-800-770-8973/TTY or dial 711 within 5 days of the expiration date of this public notice to ensure that any necessary accommodations can be provided.







# Request for CWA §401 Water Quality Certification

Alaska Department of Environmental Conservation  
Division of Water – Wastewater Discharge Authorization Program  
555 Cordova Street, Anchorage AK 99501  
email: [dec-401Cert@alaska.gov](mailto:dec-401Cert@alaska.gov) Phone: 907-269-6285

## I. Identify the applicable federal license or permit\*

Permit License Number: \_\_\_\_\_ Federal Agency:  USACE,  FERC, or  Other: \_\_\_\_\_

\*A copy of the federal permit or license application is required to be submitted with the request for the water quality certification. (18 AAC 15.130, 18 AAC 15.180)

## II. Project Proponent and Point of Contact

### Applicant Information

Michael \_\_\_\_\_ Heumann \_\_\_\_\_  
First Middle Last  
Chilkat Vistas LLC \_\_\_\_\_ Owner \_\_\_\_\_  
Company Title  
6000 Thane Rd \_\_\_\_\_ Juneau AK 99801  
Mailing Address Street or PO Box City State Zip  
chilkatvistas@gmail.com \_\_\_\_\_ 9712618014  
Email Phone Fax (optional)

### Point of Contact or Agent Information

\_\_\_\_\_  
First Middle Last  
\_\_\_\_\_  
Company Title  
\_\_\_\_\_  
Mailing Address or PO Box City State Zip  
\_\_\_\_\_  
Email Phone Fax (optional)

### Statement of Authorization

I hereby authorize \_\_\_\_\_ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit/certification application.

\_\_\_\_\_  
SIGNATURE OF APPLICANT

\_\_\_\_\_  
DATE

## III. Name, Location, and Description of Project or Activity

### Chilkat Vistas Phase 2

Project Name or Title  
Hillcrest Avenue \_\_\_\_\_ Juneau AK 99801 58.356566 -134.488419  
Project Street Address (if applicable) City State Zip Latitude Longitude  
(Decimal Degrees, 6 places) (Decimal Degrees, 6 places)

### Other Location Descriptions if known:

State Tax Parcel ID \_\_\_\_\_ Municipality \_\_\_\_\_ Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
Primary Industrial Activity (if applicable): 237210 \_\_\_\_\_  
NAICS Code

11/1/21  
Estimated Start Date

10/31/22  
Estimated End Date

### Directions to the site:

Heading North on Egan HWY, Vanderbilt Hill exit, turn right on Old Glacier HWY, Turn Left on Craig Street, Turn Left on Hillcrest Avenue, site at end of street

### Nature of Activity (Description of project, include all features)

See attachment (block 18)

### Project Purpose (Describe the reason(s) for discharge)

See Attachment (block 19)

For fill material, identify the material source: Hidden Valley

Types of material being discharged and the amount of each type in cubic yards: Shot Rock 1026 2" Rock 352  
Type yd<sup>3</sup> Type yd<sup>3</sup>

Surface area in acres of wetlands or other waters filled: Acres: 0.39 Or, linear feet: \_\_\_\_\_



Is dredging involved?  Yes,  No; If yes, how much? \_\_\_\_\_ acres and volume \_\_\_\_\_ yd<sup>3</sup>.

a. Is the dredging considered a  new project, or is it  maintenance? If maintenance, how frequent? \_\_\_\_\_

b. Proposed Placement of dredged material: (provide center coordinates of placement area)

Upland,  In water,  Other: \_\_\_\_\_

Latitude		Longitude	Latitude		Longitude	Latitude		Longitude
----------	--	-----------	----------	--	-----------	----------	--	-----------

c. Has a Tier analysis been conducted of the dredged prism?  Yes,  No; If yes, attach tier analysis and sample results.

Note, If marked no, this may later be required upon review of request.

(for example of Tier analysis, see EPA Inland Testing Manual or USACE Seattle District Civil Works DMMP User Manual)

Is any portion of the work already complete?  Yes,  No If yes, describe the completed work:

**IV. Identify the location and nature of any potential discharge that may result from the proposed project and the location of receiving waters;**

Name and location of receiving waters, and geographical extent potentially affected by the proposed discharge:  
Mendenhall Wetlands

Location of potential discharge (Decimal Degrees, 6 places), describe if necessary:

	Activity		Description	Receiving Waterbody Name	Latitude	Longitude
	Dredge	Fill				
a.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	forested wetlands	unnamed forested wetland	58.356566	-134.488419
b.	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
c.	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
d.	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
e.	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____

Is the project within 1,500 feet of a known contaminated site:  Yes,  No (see DEC Contaminated Sites Program website).

If yes, describe the identified contaminated site(s) or groundwater plume within 1,500 feet.

Parameter(s) of Concern: (check all that apply):  Turbidity,  Sediment,  Petroleum Hydrocarbons,  Metals,  Other,

Identify the parameters of concern that may be present in your discharge. Consider if other parameters may be present from past activities in the area. Describe if known respective concentrations, persistence, and potential impacts to the receiving water and data on parameters that may alter the effects of the discharge to the receiving water.:

Impaired Waters: Does a discharge of any parameter identified above occur to an impaired waterbody listed as a Category 4 [304(b)] or Category 5 [303(d)] in the current EPA approved Alaska's Integrated Water Quality Monitoring and Assessment Report? (See <http://dec.alaska.gov/water/water-quality/impaired-waters.aspx> for the most recently approved report and category listings.)  Yes,  No

If determined necessary and requested by the Department, submit sufficient and credible baseline water quality information for the receiving water which meets the requirements of 18 AAC 70.016(a)(6)(A-C).

**Social or Economic Importance (18 AAC 70.016(c)(5):** Provide information that demonstrates the accommodation of important social or economic development. The applicant shall complete either a social OR economic importance analysis (or both) for each affected community in the area where the receiving water for the proposed discharge is located. (if additional space is needed, attach separate sheet)

**(A) Social Importance Analysis:**

(select one or more areas, and describe below)

- community services provided;
- public health or safety improvements;
- infrastructure improvements;
- education and training;
- cultural amenities;
- recreational opportunities

**(B) Economic Importance Analysis:**

(select one or more areas, and describe below)

- employment, job availability, and salary impacts;
- tax base impacts;
- expanded leases and royalties;
- commercial activities;
- access to resources;
- access to a transportation network

Describe (checked items above or attach as separate document)

This project involves the extension roadways and public utilities to new lots. The construction of the infrastructure as well as the construction of houses will provide jobs for local employees and the houses will add to the tax base of Juneau.

**V. Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge**

(Example: Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Include best management practices (BMPs) for sediment and erosion controls that will be implemented to minimize the environmental impacts.)  
 Our work will be conducted using a Storm Water Pollution Prevention Plan, put together by our civil engineers. Best Management practices will be put in place to limit the sediment leaving the site and turbidity of our storm water runoff. These BMPs include check dams, vegetative buffers, swales, and others where deemed necessary.

**VI. Include a list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received.**

List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in this Application.

Agency	Type of Approval*	Identification Number	Date Applied	Date Approved	Date Denied
USACE					

\* Would include but is not restricted to zoning, building, and flood plain permits.

Addresses of Adjoining Property Owners, Lessees, Etc. Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

Name	Address	City	State	Zip
a. See attached				
b.				
c.				
d.				
e.				



**VII. Attachments: Include documentation that a prefilling meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request; and include a copy of the federal license or permit application.**

- Required:** Prefiling meeting request documentation. (40 CFR 121.4)
- Required:** Copy of the federal license or permit requiring certification under 33 U.S.C. 1341 (Clean Water Act, Section 401) to include all accompanying information, contemporaneous with the submission of the application to the federal licensing or permitting agency. (18 AAC 15.130, 18 AAC 15.180)
- Required:** Figures and/or Drawings/Plan Sets
- Tier Analysis of dredged material
- Sampling Results
- Baseline Water Quality Information
- Other

**VIII. Certification Statement:**

As per 18 AAC 15.030 signing of applications, all permit or approval applications must be signed as follows:

- 1) in the case of corporations, by a principal executive officer of at least the level of vice president or his duly authorized representative, if the representative is responsible for the overall management of the project or operation;
- 2) in the case of a partnership, by a general partner;
- 3) in the case of a sole proprietorship, by the proprietor; and
- 4) in the case of a municipal, state, federal or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

Company or Organization: <b>Chilkat Vistas LLC</b>		Name: <b>Michael Heumann</b>	Title: <b>Owner</b>
Phone: <b>971-261-8014</b>	Fax (optional):	Email: <b>chilkatvistas@gmail.com</b>	
Mailing Address:	Street (PO Box):		
<input checked="" type="checkbox"/> Check if same as Applicants Info	City:	State:	Zip:

  
\_\_\_\_\_  
Signature

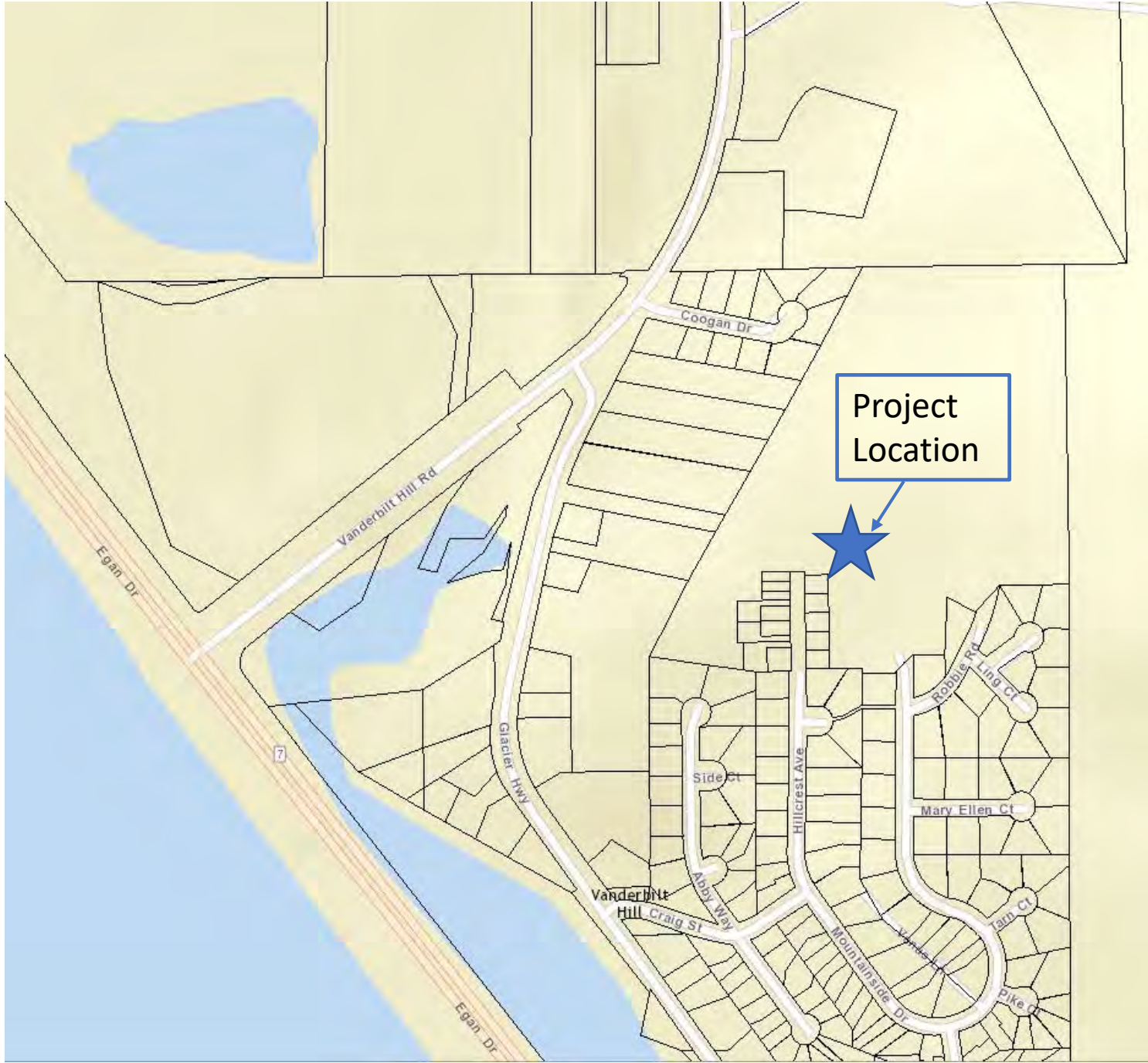
**9-16-21**  
\_\_\_\_\_  
Date

**Submit the CWA §401 Certification Request to [DEC-401Cert@alaska.gov](mailto:DEC-401Cert@alaska.gov).**

*Include in the subject line the following:*

*"CWA §401 Certification Request - <Insert Federal Agency and permit number or license number> - <insert project title>".*

Vicinity Map:  
Chilkat Vistas South









17. DIRECTIONS TO THE SITE

Heading north on Egan from downtown Juneau, take the Vanderbilt Hill exit, turn left to head South on Glacier Highway, turn Left on Craig Street, turn Left on Hillcrest Avenue. Site is at end of Hillcrest.

18. Nature of Activity (Description of project, include all features)

See attachment

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

See attachment

**USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

20. Reason(s) for Discharge

Fill will be discharged for the construction of roadways, associated utilities and building pads. Shot rock or sandy gravel will be the primary fill placed directly in wetlands.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Shot Rock/ Gravel : 1026	2-Inch Rock : 352	Asphalt/ Concrete: 98

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 0.39 (see disturbance table)

or

Linear Feet Net Reduction of 1192' of streams/ditches

23. Description of Avoidance, Minimization, and Compensation (see instructions)

See attachment

24. Is Any Portion of the Work Already Complete?  Yes  No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- SEE ATTACHED

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-


City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

\* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

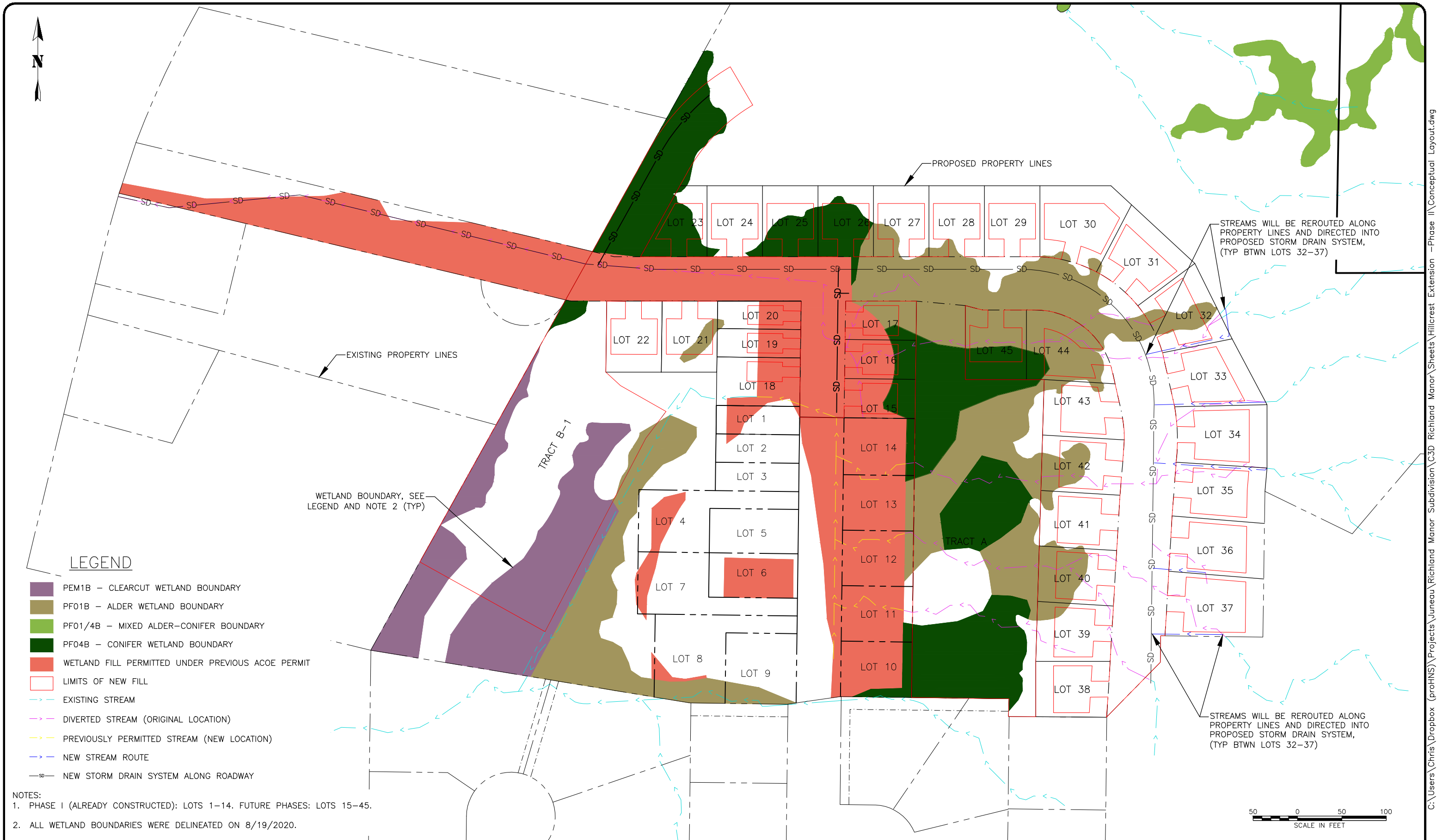

7-26-21
\_\_\_\_\_
\_\_\_\_\_

SIGNATURE OF APPLICANT                      DATE                      SIGNATURE OF AGENT                      DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.





**LEGEND**

- PEM1B - CLEARCUT WETLAND BOUNDARY
- PF01B - ALDER WETLAND BOUNDARY
- PF01/4B - MIXED ALDER-CONIFER BOUNDARY
- PF04B - CONIFER WETLAND BOUNDARY
- WETLAND FILL PERMITTED UNDER PREVIOUS ACOE PERMIT
- LIMITS OF NEW FILL
- EXISTING STREAM
- DIVERTED STREAM (ORIGINAL LOCATION)
- PREVIOUSLY PERMITTED STREAM (NEW LOCATION)
- NEW STREAM ROUTE
- NEW STORM DRAIN SYSTEM ALONG ROADWAY

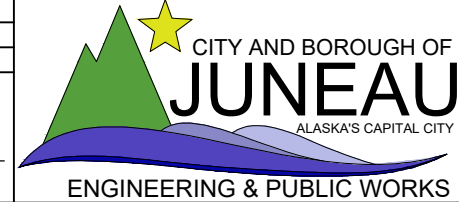
NOTES:  
 1. PHASE I (ALREADY CONSTRUCTED): LOTS 1-14. FUTURE PHASES: LOTS 15-45.  
 2. ALL WETLAND BOUNDARIES WERE DELINEATED ON 8/19/2020.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
 CHECKED BY: L. CHMABERS  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004  
 solutions@proHNS.com  
 www.proHNS.com



JUNEAU, AK

**CHILKAT VISTAS  
 CONCEPTUAL  
 GRAPHIC**

SHEET NUMBER	
1	OF
3	

C:\Users\Chris\Dropbox (proHNS)\Projects\Juneau\Richland Manor Subdivision\Sheets\Hillcrest Extension -Phase II\Conceptual Layout.dwg March 22, 2021





PHASE I (ALREADY CONSTRUCTED): LOTS 1-14  
 FUTURE PHASES: LOTS 15-45



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION  
 #100662

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

1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004

solutions@proHNS.com  
 www.proHNS.com

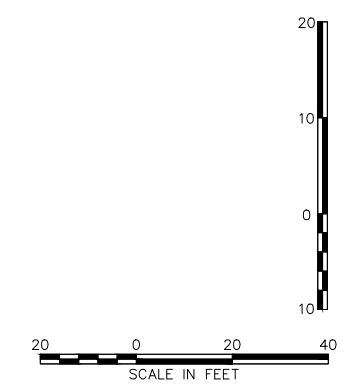
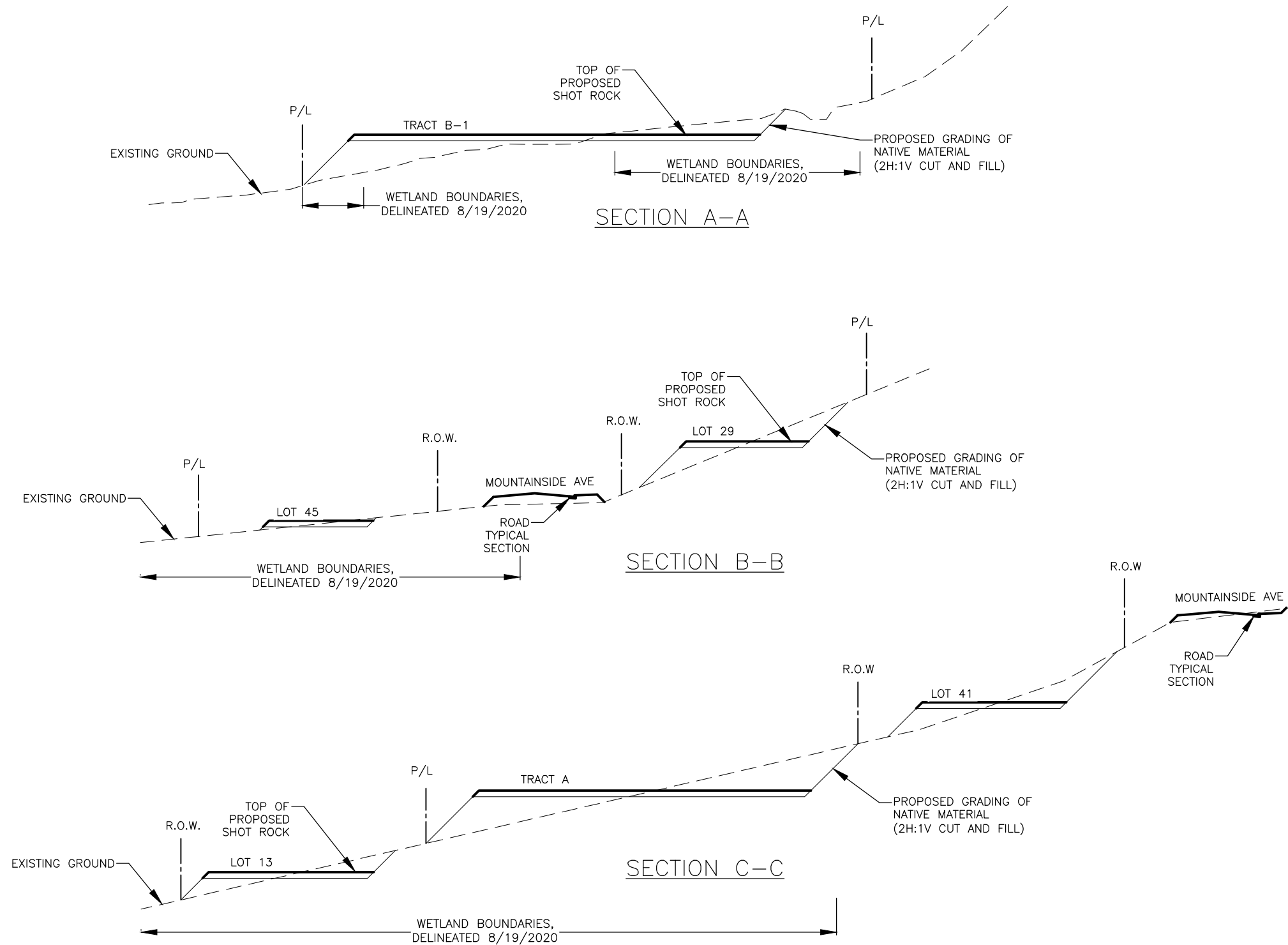
**CITY AND BOROUGH OF JUNEAU**  
 ALASKA'S CAPITAL CITY

**ENGINEERING & PUBLIC WORKS**


JUNEAU, AK

**CHILKAT VISTAS  
 CONCEPTUAL LOT  
 LAYOUT**

SHEET NUMBER
<b>2</b>
OF
<b>3</b>



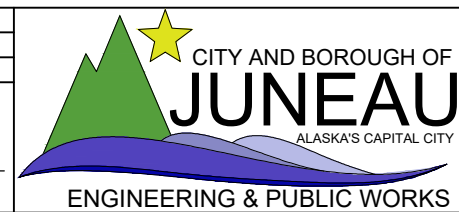
RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION #100662  
 solutions@proHNS.com  
 www.proHNS.com

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

1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004



**CITY AND BOROUGH OF JUNEAU**  
 ALASKA'S CAPITAL CITY  
 ENGINEERING & PUBLIC WORKS

JUNEAU, AK

**CHILKAT VISTAS SECTIONS**

SHEET NUMBER	<b>3</b>
OF	<b>3</b>



US Army Corps  
of Engineers  
Alaska District

# Public Notice of Application for Permit

JUNEAU FIELD OFFICE  
Regulatory Division (1145)  
CEPOA-RD  
Post Office Box 22270  
Juneau, Alaska 99802-2270

**PUBLIC NOTICE DATE:** December 23, 2021  
**EXPIRATION DATE:** January 21, 2022  
**REFERENCE NUMBER:** POA-2019-00066-M1  
**WATERWAY:** Gastineau Channel

Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States as described below and shown on the enclosed project drawings.

All comments regarding this Public Notice should be sent to the address noted above. If you desire to submit your comments by email, you should send it to the Project Manager's email as listed below or to [regpagemaster@usace.army.mil](mailto:regpagemaster@usace.army.mil). All comments should include the Public Notice reference number listed above.

All comments should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. Please contact Matthew Brody at (907) 201-5023, or by email at [Matthew.T.Brody@usace.army.mil](mailto:Matthew.T.Brody@usace.army.mil) if further information is desired concerning this notice.

**APPLICANT:** Michael Heumann – Chilkat Vistas LLC

**LOCATION:** The project site is located within Section 5, T. 41 S., R. 67 E., Copper River Meridian; USGS Quad Map Juneau B-2; Latitude 58.345352° N., Longitude -134.490486° W.; located at the end of Hillcrest Avenue, in Juneau, Alaska.

**PURPOSE:** The applicant's stated purpose is to subdivide a large tract of property in order to provide small residential lots to help meet the current demand for affordable housing in Juneau, Alaska.

PROPOSED WORK: The applicant is proposing to develop portions of their property consisting of the connection of Hooter Lane and Hillcrest Avenue, the development of 13 single family lots, and one larger multi-family lot. The proposed development would result in the placement of fill into 0.31-acres of wetlands. All work would be performed in accordance with the enclosed plan (sheets 1-7), dated November 2021.

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 applicant has avoided impacts to waters of the U.S. by situating their proposed project to have the minimum footprint in waters of the U.S. to meet their purpose and need. The proposed layout would impact wetlands to provide access to uplands on site for further development. Developing uplands on site without impacting waters was not possible.

b. Minimization: The applicant has minimized impacts to waters of the U.S. by redesigning their original proposal to fill the minimum area necessary to meet their purpose and need. Additionally, the proposed design would provide utilities and access to upland portions of the parcel that would be developed in the future.

c. Compensatory Mitigation: The applicant has proposed no compensatory mitigation.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification, as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

CULTURAL RESOURCES: The latest published version of the Alaska Heritage Resources Survey (AHRS) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. There are no cultural resources in the permit area or within the vicinity of the permit area. The permit area has been determined to be the footprint of the proposed work consisting of 0.31 acres. Consultation of the AHRS constitutes the extent of cultural resource investigations by the U.S. Army Corps of Engineers (Corps) at this time, and we are otherwise unaware of the presence of such resources. The Corps has made a No Historic Properties Affected (No Effect) determination for the proposed project. This application is being coordinated with the State Historic Preservation Office (SHPO). Any comments SHPO may have concerning presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work. The Corps is requesting the SHPO's concurrence with this determination.

ENDANGERED SPECIES: No threatened or endangered species are known to use the project area. We have determined the described activity would have no effect on any listed or proposed threatened or endangered species, and would have no effect on any designated or proposed critical habitat, under the Endangered Species Act of 1973 (87 Stat. 844). Therefore, no consultation with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (NMFS) is required. However, any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final

assessment of the described work.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). There is no EFH located within or near the project area, therefore, we have determined the described activity would not adversely affect EFH.

TRIBAL CONSULTATION: The Alaska District fully supports tribal self-governance and government-to-government relations between Federally recognized Tribes and the Federal government. Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This Public Notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Commander during the public comment period.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The outcome of the general balancing process would determine whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur. The decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Commander determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

AUTHORITY: This permit will be issued or denied under the following authority:

(X) Discharge dredged or fill material into waters of the United States – Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Project drawings a Notice of Application for State Water Quality Certification are enclosed with this Public Notice.

District Commander  
U.S. Army, Corps of Engineers

Enclosures





# PUBLIC NOTICE

Alaska Department of Environmental Conservation (DEC)  
Wastewater Discharge Authorization Program/401 Certification  
555 Cordova Street, Anchorage AK 99501-2617  
Phone: 907-269-6285 | Email: [DEC-401Cert@alaska.gov](mailto:DEC-401Cert@alaska.gov)

## Notice of Application for State Water Quality Certification

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act (CWA) of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the CWA, the Alaska Water Quality Standards, and other applicable State laws.

Notice is hereby given that a request for a CWA §401 Water Quality Certification of a Department of the Army Permit application, Corps of Engineers' Reference Number POA-2019-00066-M1, Gastineau Channel, has been received for the discharge of dredged and/or fill materials into waters of the United States (WOUS), including wetlands, as described in the Corps public notice and project figures/drawings (18 AAC 15.180).

Any person desiring to comment on the project with respect to water quality, may submit comments electronically via email to [DEC-401cert@alaska.gov](mailto:DEC-401cert@alaska.gov) by the expiration date of the Corps of Engineer's public notice. All comments need to include the Corps public notice reference number in the subject heading. Physically mailed comments must be postmarked on or before the expiration date of the public notice.

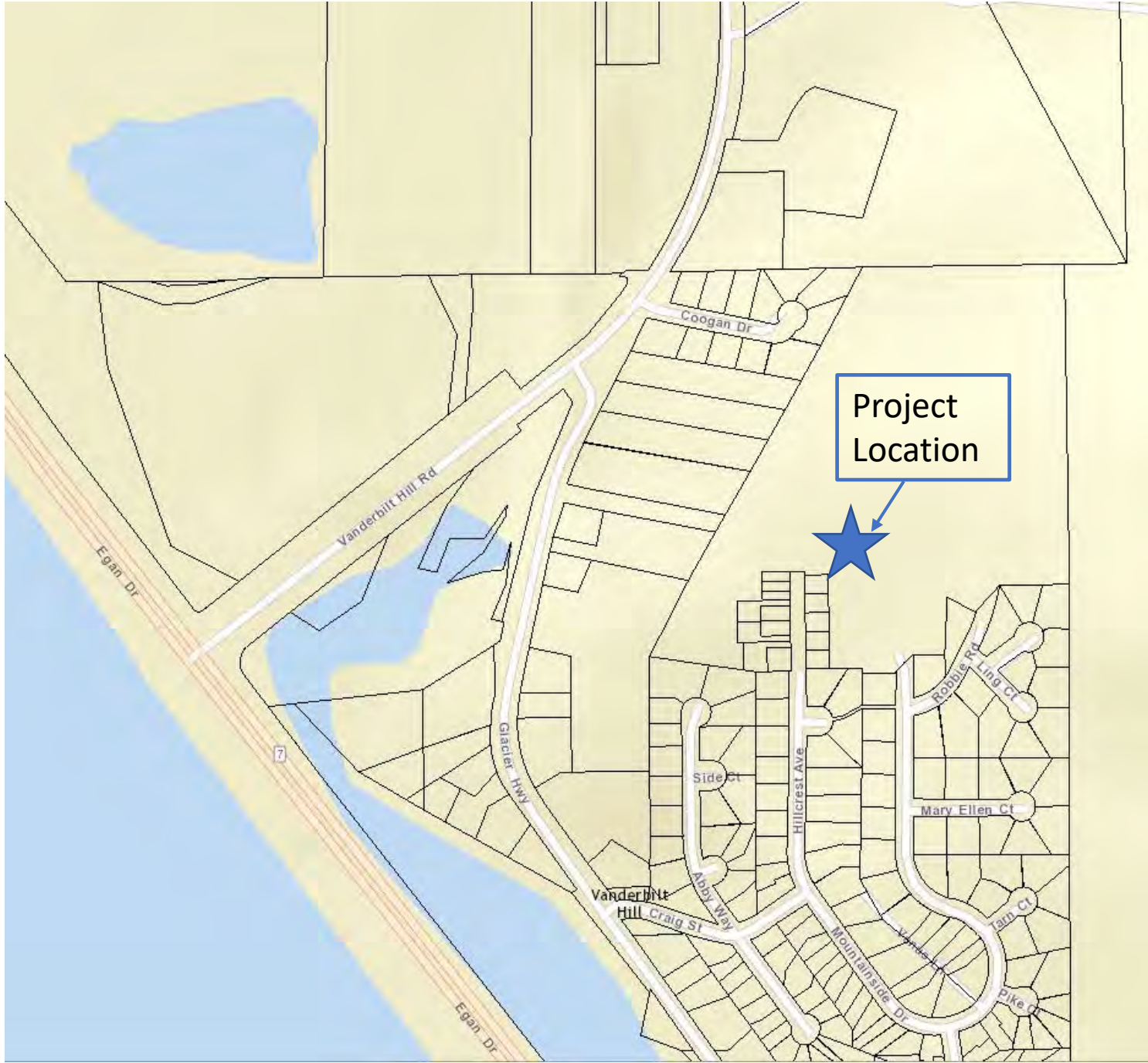
After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the CWA, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

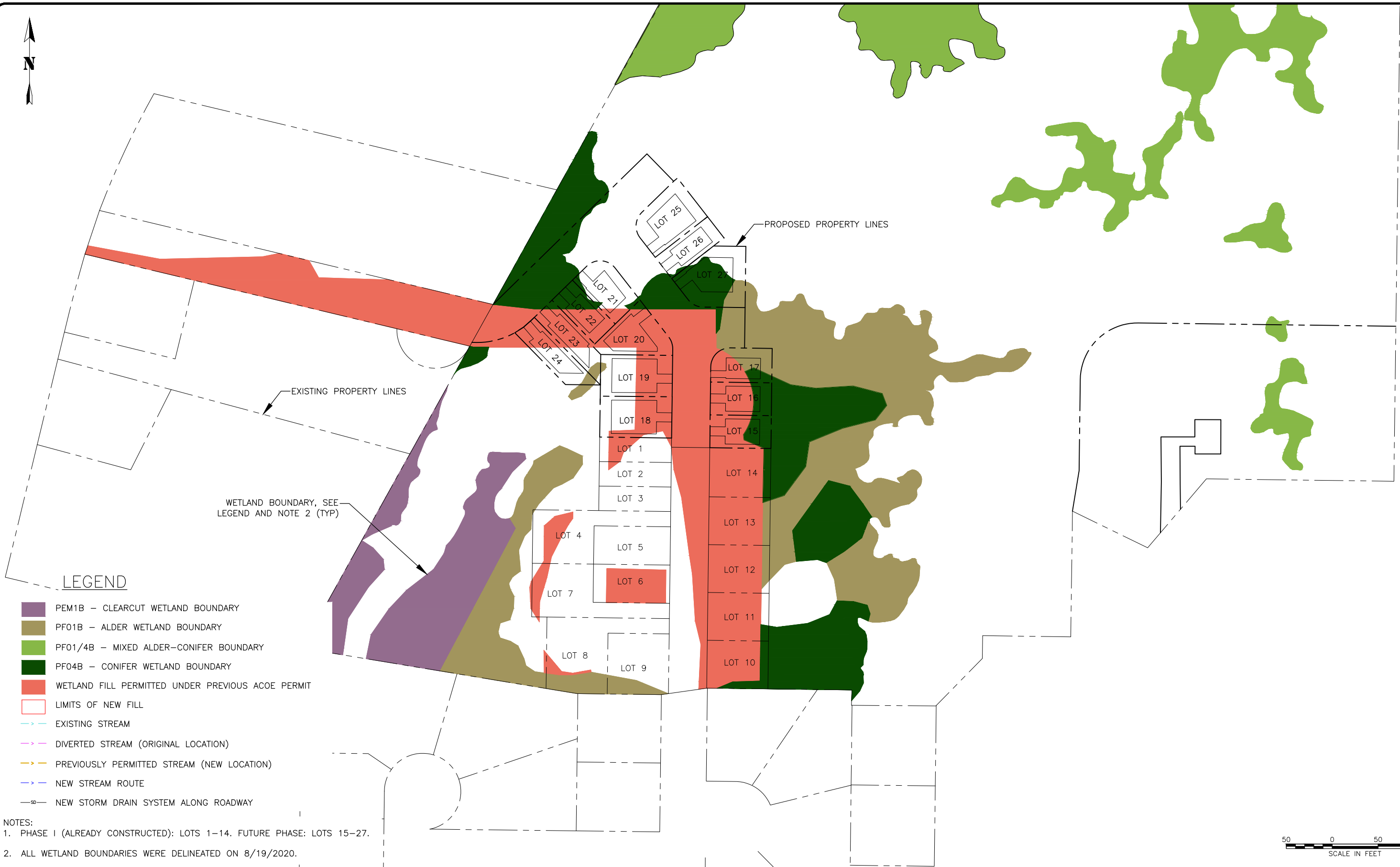
The permit application and associated documents are available for review. For inquires or to request copies of the documents, contact [dec-401cert@alaska.gov](mailto:dec-401cert@alaska.gov), or call 907-269-6285.

### **Disability Reasonable Accommodation Notice**

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act (ADA) of 1990. If you are a person with a disability who may need special accommodation in order to participate in this public process, please contact ADA Coordinator Brian Blessington at 907-269-6272 or TDD Relay Service 1-800-770-8973/TTY or dial 711 within 5 days of the expiration date of this public notice to ensure that any necessary accommodations can be provided.

Vicinity Map:  
Chilkat Vistas South





**LEGEND**

- PEM1B - CLEARCUT WETLAND BOUNDARY
- PF01B - ALDER WETLAND BOUNDARY
- PF01/4B - MIXED ALDER-CONIFER BOUNDARY
- PF04B - CONIFER WETLAND BOUNDARY
- WETLAND FILL PERMITTED UNDER PREVIOUS ACOE PERMIT
- LIMITS OF NEW FILL
- EXISTING STREAM
- DIVERTED STREAM (ORIGINAL LOCATION)
- PREVIOUSLY PERMITTED STREAM (NEW LOCATION)
- NEW STREAM ROUTE
- NEW STORM DRAIN SYSTEM ALONG ROADWAY

NOTES:  
 1. PHASE I (ALREADY CONSTRUCTED): LOTS 1-14. FUTURE PHASE: LOTS 15-27.  
 2. ALL WETLAND BOUNDARIES WERE DELINEATED ON 8/19/2020.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**

CERTIFICATE OF AUTHORIZATION #100662

1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004

solutions@proHNS.com  
 www.proHNS.com

**CITY AND BOROUGH OF JUNEAU**

ALASKA'S CAPITAL CITY

**ENGINEERING & PUBLIC WORKS**

JUNEAU, AK

## CHILKAT VISTAS WETLAND IMPACTS

SHEET NUMBER	
<b>1</b>	OF
<b>6</b>	



**LEGEND**

- PEM1B - CLEARCUT WETLAND BOUNDARY
- PF01B - ALDER WETLAND BOUNDARY
- PF01/4B - MIXED ALDER-CONIFER BOUNDARY
- PF04B - CONIFER WETLAND BOUNDARY
- WETLAND FILL PERMITTED UNDER PREVIOUS ACOE PERMIT
- LIMITS OF NEW FILL
- EXISTING STREAM
- DIVERTED STREAM (ORIGINAL LOCATION)
- PREVIOUSLY PERMITTED STREAM (NEW LOCATION)
- NEW STREAM ROUTE
- NEW STORM DRAIN SYSTEM ALONG ROADWAY

NOTES:  
 1. PHASE I (ALREADY CONSTRUCTED): LOTS 1-14. FUTURE PHASE: LOTS 15-27  
 2. ALL WETLAND BOUNDARIES WERE DELINEATED ON 8/19/2020.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION  
 #100662

DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
 CHECKED BY: L. CHMABERS  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004  
 solutions@proHNS.com  
 www.proHNS.com

**CITY AND BOROUGH OF JUNEAU**  
 ALASKA'S CAPITAL CITY  
**ENGINEERING & PUBLIC WORKS**

JUNEAU, AK

**CHILKAT VISTAS  
 EXISTING STREAMS**

SHEET NUMBER
<b>2</b>
OF
<b>6</b>

C:\Users\lucas\Dropbox (proHNS)\Projects\Juneau\Richland Manor Subdivision\C3D Richland Manor\Sheets\Hillcrest Extension --Phase II\ACOR Permit\Conceptual Layout\_11.4.21.dwg  
 November 4, 2021





**LEGEND**

- PEM1B - CLEARCUT WETLAND BOUNDARY
- PF01B - ALDER WETLAND BOUNDARY
- PF01/4B - MIXED ALDER-CONIFER BOUNDARY
- PF04B - CONIFER WETLAND BOUNDARY
- WETLAND FILL PERMITTED UNDER PREVIOUS ACOE PERMIT
- LIMITS OF NEW FILL
- EXISTING STREAM
- DIVERTED STREAM (ORIGINAL LOCATION)
- PREVIOUSLY PERMITTED STREAM (NEW LOCATION)
- NEW STREAM ROUTE
- NEW STORM DRAIN SYSTEM ALONG ROADWAY

NOTES:  
 1. PHASE I (ALREADY CONSTRUCTED): LOTS 1-14. FUTURE PHASE: LOTS 15-27.  
 2. ALL WETLAND BOUNDARIES WERE DELINEATED ON 8/19/2020.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**

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**CITY AND BOROUGH OF  
JUNEAU**

ALASKA'S CAPITAL CITY

**ENGINEERING & PUBLIC WORKS**

JUNEAU, AK

CHILKAT VISTAS  
EXISTING STREAMS  
TO BE DIVERTED

SHEET NUMBER
3
OF
6



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

5 of 8  
November, 2021

POA-2019-00066-M1  
Residential Development

1945 ALEX HOLDEN WAY #101  
JUNEAU, AK 99801  
(907) 780-4004

CERTIFICATE OF AUTHORIZATION #100662

solutions@proHNS.com  
www.proHNS.com

CITY AND BOROUGH OF  
**JUNEAU**  
ALASKA'S CAPITAL CITY

ENGINEERING & PUBLIC WORKS

JUNEAU, AK

**CHILKAT VISTAS NEW  
STREAM ROUTES**

SHEET NUMBER	
4	OF
6	





PHASE I (ALREADY CONSTRUCTED): LOTS 1-14  
 FUTURE PHASE: LOTS 15-27



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION  
 #100662

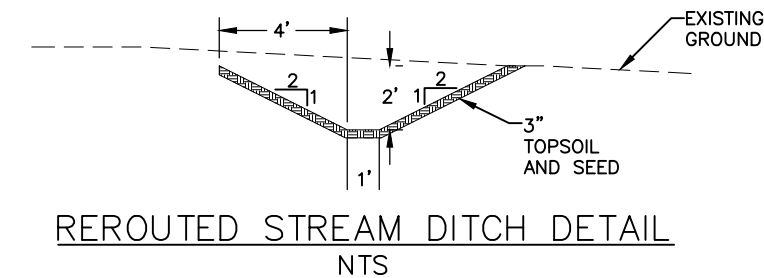
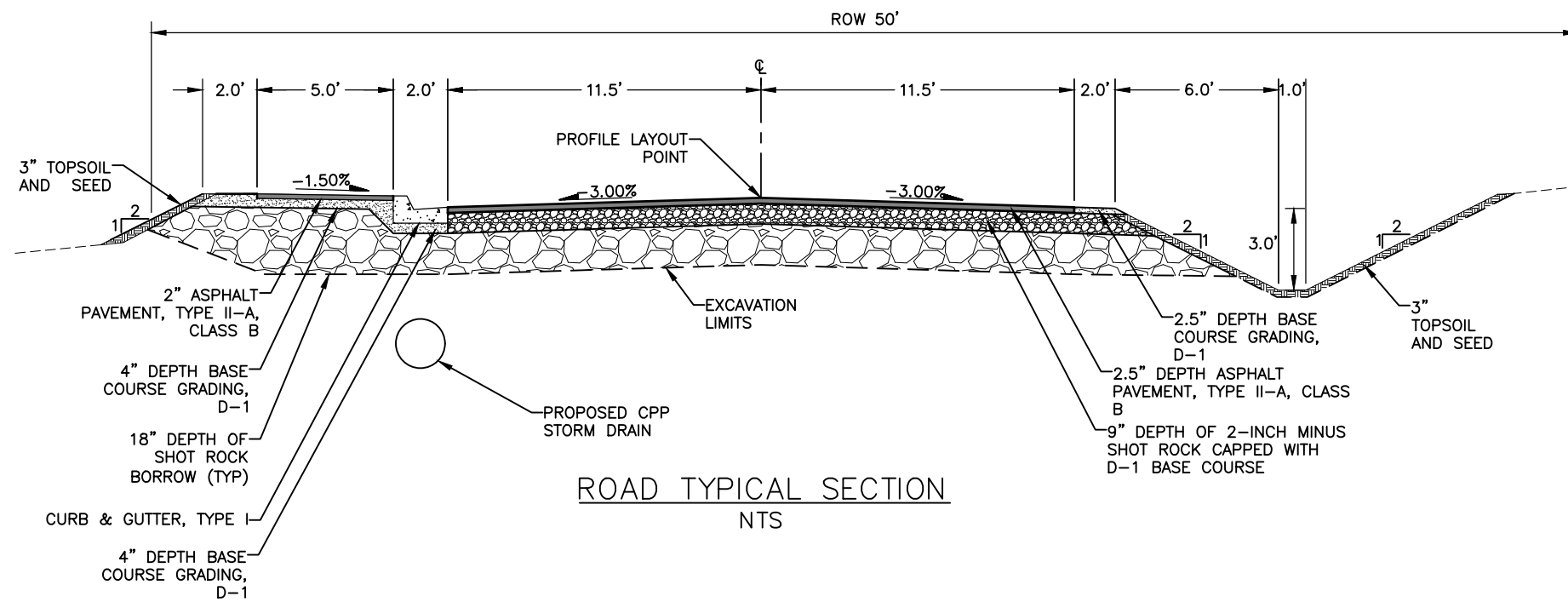
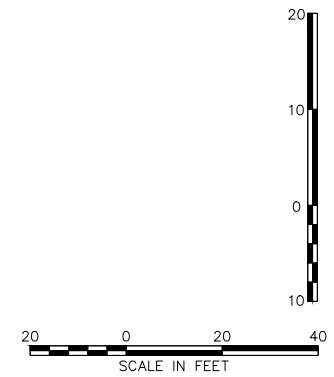
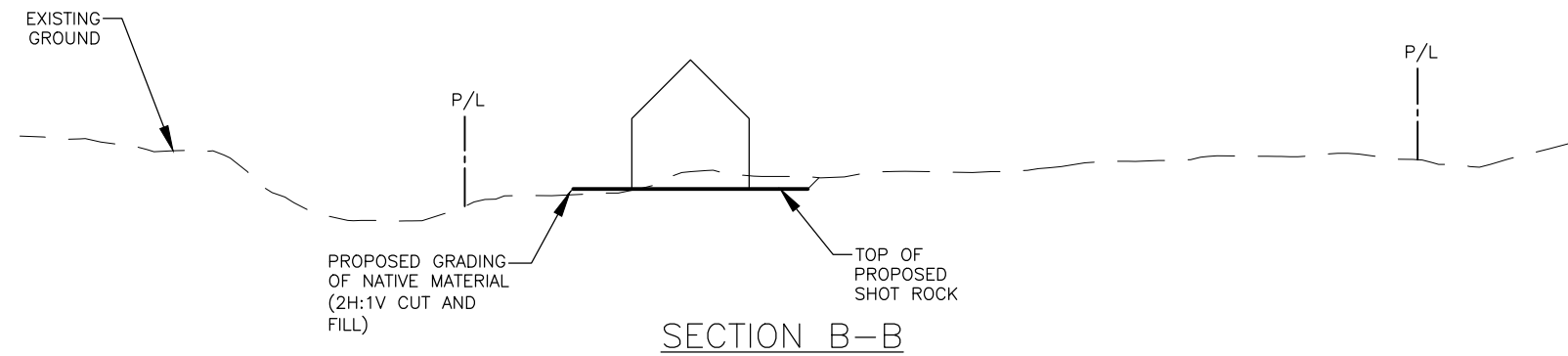
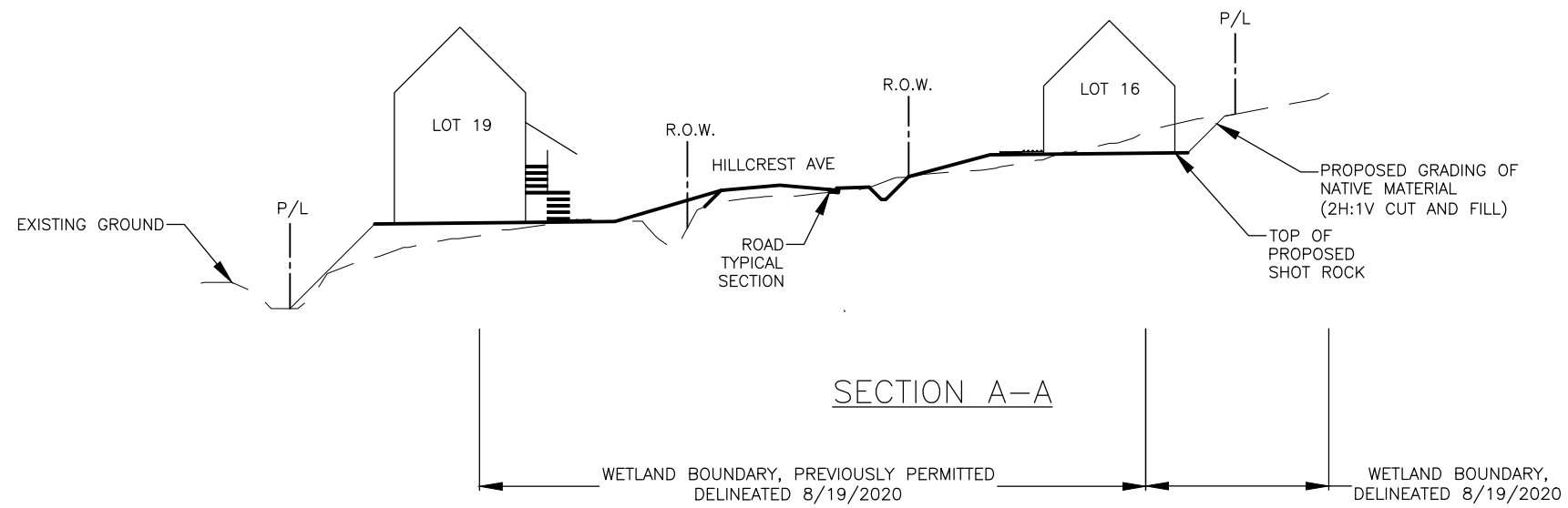
DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
 CHECKED BY: L. CHMABERS  
 1945 ALEX HOLDEN WAY #101  
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**CITY AND BOROUGH OF JUNEAU**  
 ALASKA'S CAPITAL CITY  
 ENGINEERING & PUBLIC WORKS

JUNEAU, AK

**CHILKAT VISTAS  
 CONCEPTUAL LOT  
 LAYOUT**

SHEET NUMBER
5
OF
6



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

1945 ALEX HOLDEN WAY #101  
JUNEAU, AK 99801  
(907) 780-4004

CERTIFICATE OF AUTHORIZATION #100662

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

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www.proHNS.com

CITY AND BOROUGH OF JUNEAU  
ALASKA'S CAPITAL CITY

ENGINEERING & PUBLIC WORKS

JUNEAU, AK

CHILKAT VISTAS SECTIONS

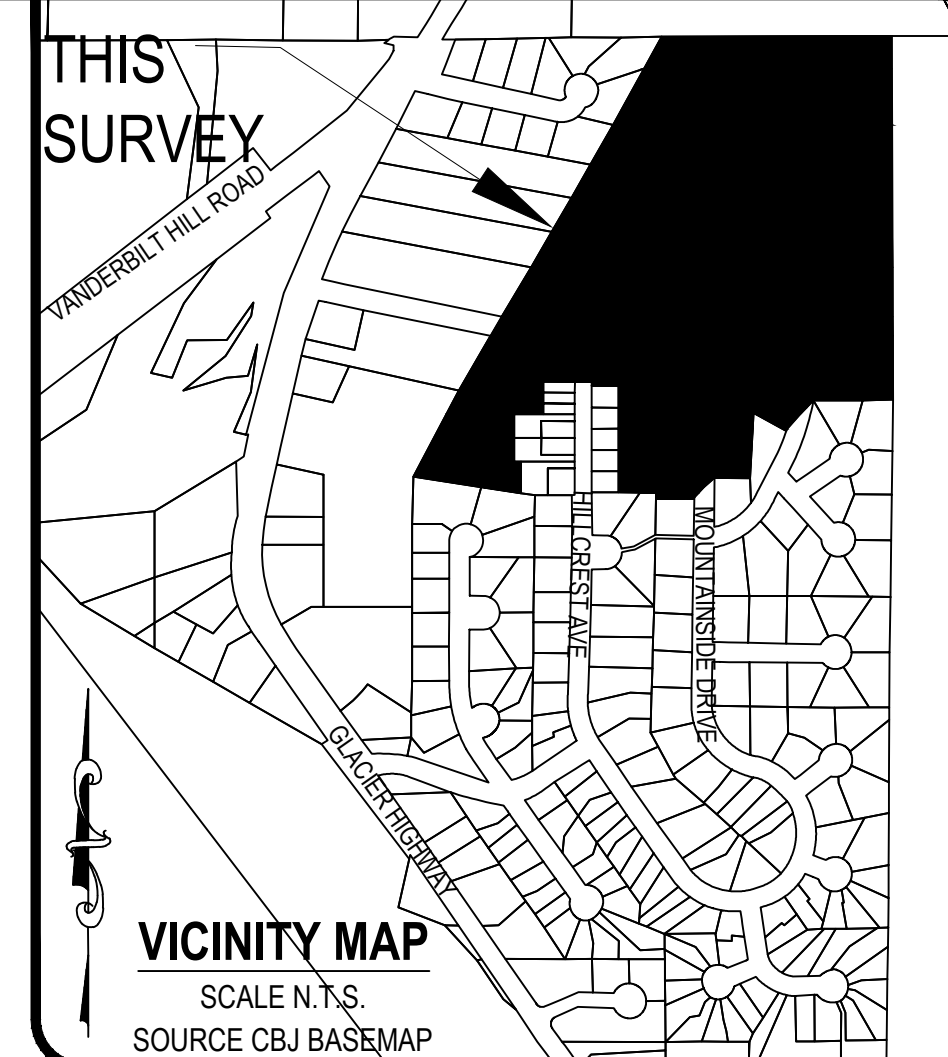
SHEET NUMBER	6
OF	6

Lot #	Total Lot Area (sf)	Building Pad (sf)	Excavation Depth (ft)	Excavation Volume (cy)	Shot Rock Depth (ft)	Shot Rock Volume (cy)	2-Inch Depth (ft)	2-Inch Volume (cy)	Concrete/Asphalt Depth (ft)	Concrete/Asphalt Volume (cy)
15	3429	1719	1	63.67	2	127.33				
16	3435	1717	1	63.59	2	127.19				
17	3465	1454	1	53.85	2	107.70				
18	5046	2826	1	104.67	2	209.33				
19	5091	2847	1	105.44	2	210.89				
20	4408	2201	1	81.52	2	163.04				
21	3795	1646	1	60.96	2	121.93				
22	3004	1480	1	54.81	2	109.63				
23	3416	1702	1	63.04	2	126.07				
24	3492	1722	1	63.78	2	127.56				
25	5035	2391	1	88.56	2	177.11				
26	3027	1527	1	56.56	2	113.11				
27	5177	2493	1	92.33	2	184.67				
Driveway and Building Pad	5490	5490	1	203.33	2	406.67				
Combined Lots				1156.11		2312.22				
Roads (hooter/mountainside)	64,722	21600	1	800.00	1.5	1200.00	0.75	600.00	0.21	168.00
Totals:										
Excavation (cy)				1,956						
Shot Rock (cy)				3,512						
2-Inch Rock (cy)				600						
Asphalt/ Concrete (cy)				168						

LOT 2  
PLAT 91-9 BASIS OF BEARING  
S 89°52'00" E 726.81 (726.81)R3

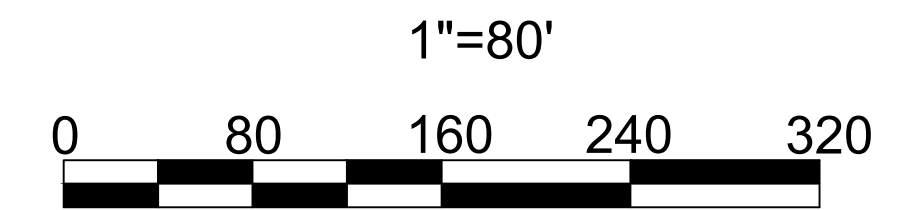
**BASIS OF BEARING:**  
THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF S 89° 52'00" E AS DELINEATED ON THE OFFICIAL PLAT OF US SURVEY 4807 SUBDIVISION, APPROVED 23 MARCH 1965, BETWEEN FOUND PRIMARY MONUMENTS WHICH MARK CORNER 1 AND CORNER 2, US SURVEY 4807 AS SHOWN ON THIS PLAT.

	CURVE RAD	ARC LENGTH	CHORD LENGTH	CHORD BEARING	Δ ANGLE
C1	100.00	52.17	51.58	S 75°03'17" W	29°53'26"
C2	100.00	26.51	26.43	S 52°30'58" W	15°11'11"
C3	25.00	42.10	37.30	N 86°50'00" W	96°29'14"
C4	25.00	16.84	16.52	S 19°17'41" E	38°35'23"
C5	25.00	39.27	35.36	N 45°00'00" E	90°00'00"
C6	25.00	21.55	20.88	N 63°13'53" W	49°22'48"
C7	25.00	36.44	33.30	S 03°10'00" W	83°30'46"



**LEGEND:**

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- JW BEAN 3650-S PRIMARY MONUMENT RECOVERED
- CHILKAT SURVEYING PRIMARY MONUMENT ESTABLISHED
- CHILKAT SURVEYING PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- 6277-S SECONDARY MONUMENT RECOVERED
- 3650-S MONUMENT RECOVERED
- #5 REBAR RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- EASEMENT BOUNDARY
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33" W)R3 RECORD INFORMATION FROM PLAT No. 97-47
- (S00°06'33" W)R4 RECORD INFORMATION FROM PLAT No. 2020-27
- ELECTRICAL EASEMENT ESTABLISHED THIS SURVEY



PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
SUBDIVISION OF  
TRACT A CHILKAT VISTA SUBDIVISION  
A FRACTION OF US SURVEY 4807  
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT ANCHORAGE

CHILKAT SURVEYING & MAPPING, LLC  
10654 PORTER LANE JUNEAU, ALASKA 99801  
907-957-1908

OWNERS  
WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
6000 THANE ROAD JUNEAU, ALASKA 99801

SMP: 20210004 SCALE: 1" = 80' DATE: 16 DECEMBER 2022 SHEET NO. 1 OF 3

**SURVEYOR'S CERTIFICATE**

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

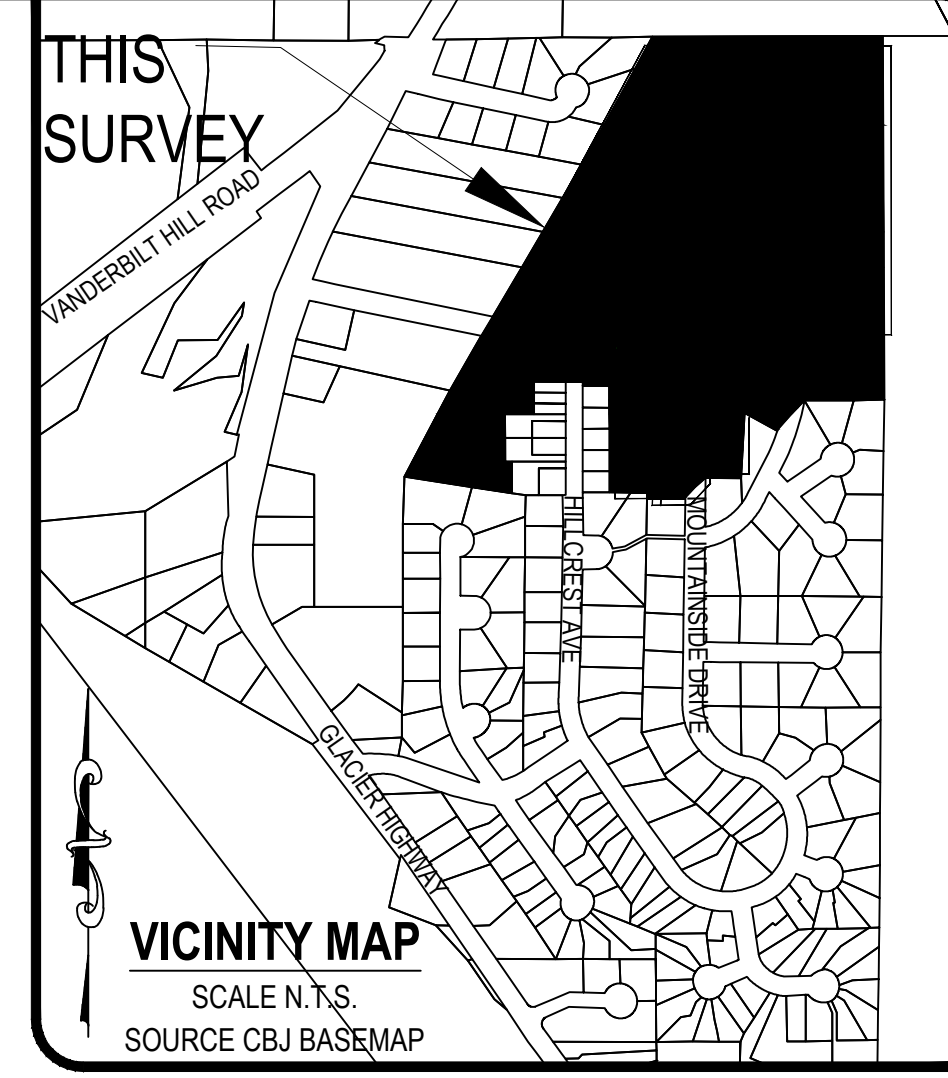
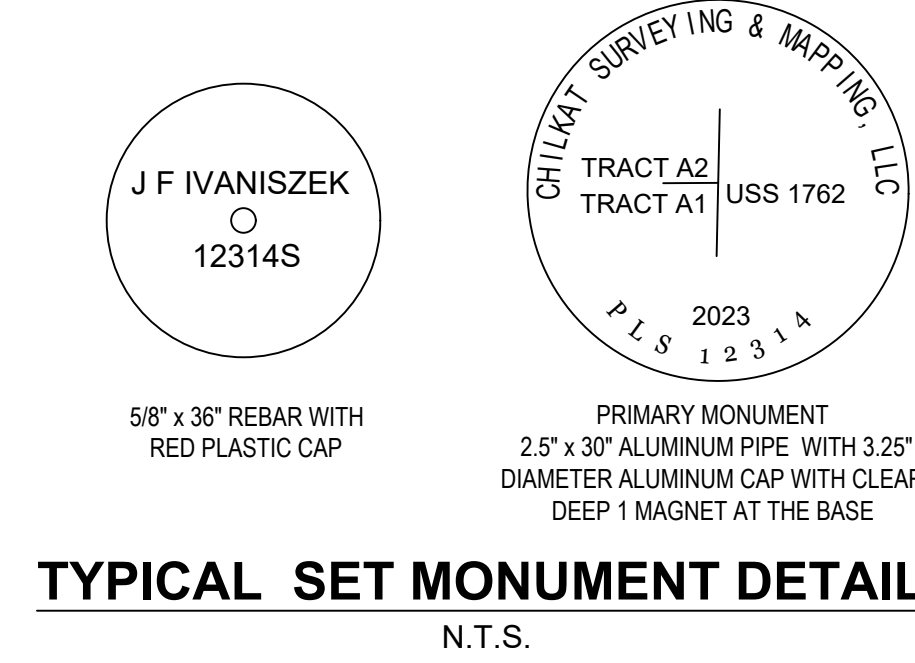
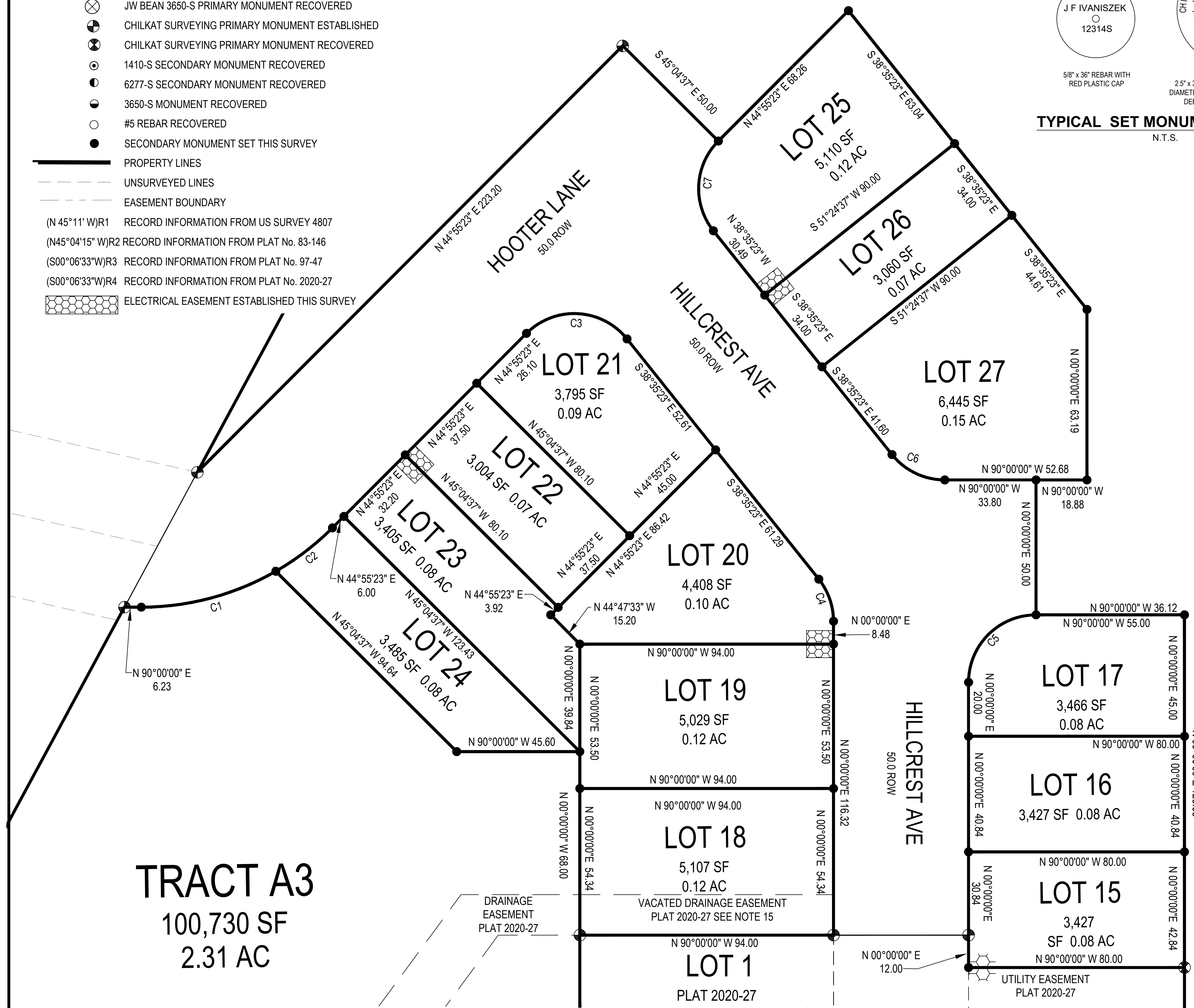


DATED: 16 DECEMBER 2022



**LEGEND:**

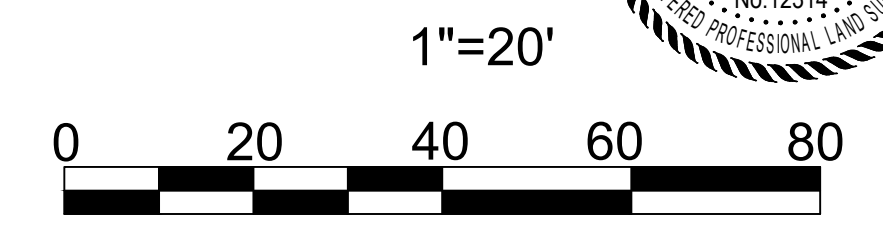
- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- JW BEAN 3650-S PRIMARY MONUMENT RECOVERED
- CHILKAT SURVEYING PRIMARY MONUMENT ESTABLISHED
- CHILKAT SURVEYING PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- 6277-S SECONDARY MONUMENT RECOVERED
- 3650-S MONUMENT RECOVERED
- #5 REBAR RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- EASEMENT BOUNDARY
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47
- (S00°06'33"W)R4 RECORD INFORMATION FROM PLAT No. 2020-27
- ELECTRICAL EASEMENT ESTABLISHED THIS SURVEY



CURVE RAD	ARC LENGTH	CHORD LENGTH	CHORD BEARING	Δ ANGLE
C1	100.00	52.17	51.58	S 75°03'17\" W 29°53'26"
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C7	25.00	36.44	33.30	S 03°10'00\" W 83°30'46"

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

DATED: 16 DECEMBER 2022



PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
 SUBDIVISION OF  
 TRACT A CHILKAT VISTA SUBDIVISION  
 A FRACTION OF US SURVEY 4807  
 WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
 JUNEAU RECORDING DISTRICT

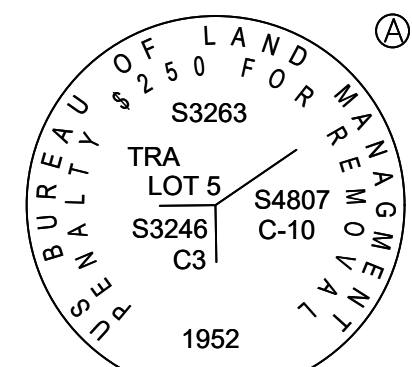
STATE RECORDERS OFFICE AT ANCHORAGE

CHILKAT SURVEYING & MAPPING, LLC  
 10654 PORTER LANE JUNEAU, ALASKA 99801  
 907-957-1908

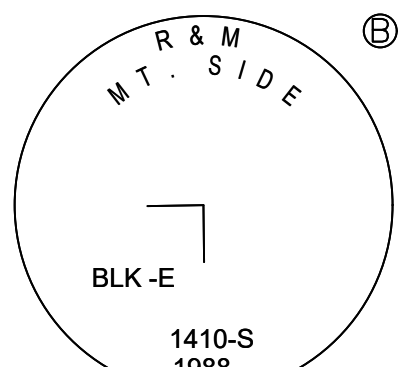
OWNERS  
 WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
 6000 THANE ROAD JUNEAU, ALASKA 99801

SMP: 20210004    SCALE: 1" = 20'    DATE: 16 DECEMBER 2022    SHEET NO. 2 OF 3

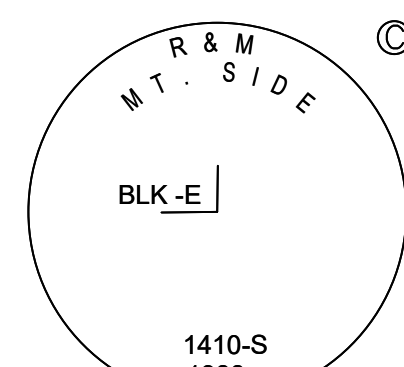
**FOUND MONUMENT DESCRIPTIONS:**  
N.T.S.



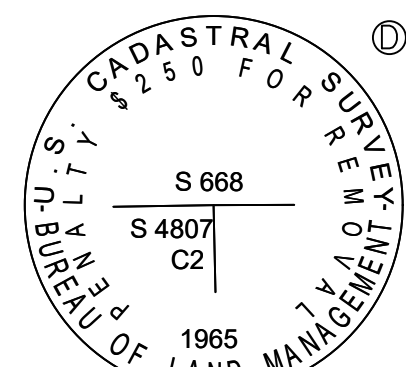
2.5" BRASS CAP MONUMENT



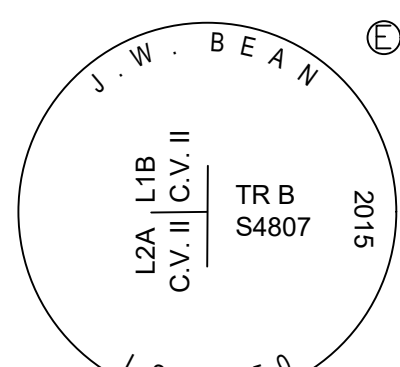
3.25" ALUMINUM CAP MONUMENT



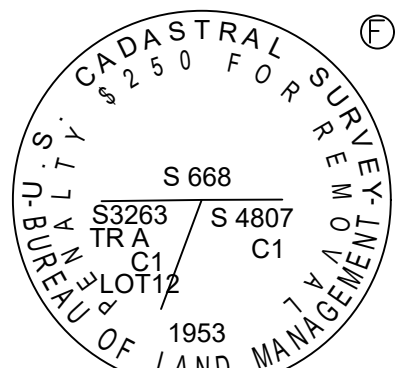
3.25" ALUMINUM CAP MONUMENT



2.5" BRASS CAP MONUMENT



3.25" ALUMINUM CAP MONUMENT  
FOUND J.W. BEAN MONUMENT  
S 61°38'46" E 0.37 FROM  
US SURVEY 4807 BOUNDARY  
MONUMENT NOT ACCEPTED

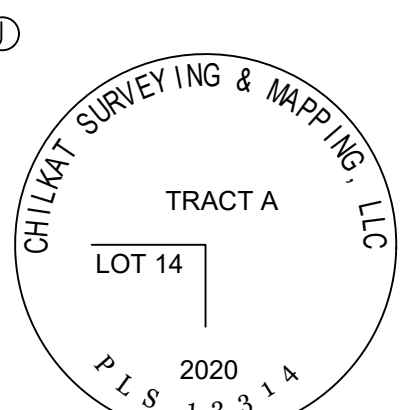


2.5" BRASS CAP MONUMENT

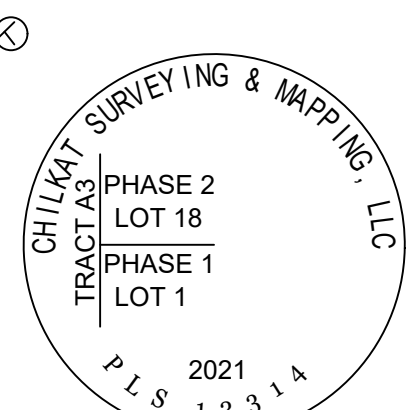
FOUND J.W. BEAN REBAR MONUMENT  
S 01°34'23" W 0.62 FROM  
CORNER LOCATION  
MONUMENT NOT ACCEPTED  
NO RECORD FOUND ON FILE WITH  
ALASKA DNR

FOUND JW BEAN REBAR  
S 11°57'46" W 1.60 FROM  
CORNER LOCATION  
MONUMENT NOT ACCEPTED  
NO RECORD FOUND ON FILE  
WITH ALASKA DNR

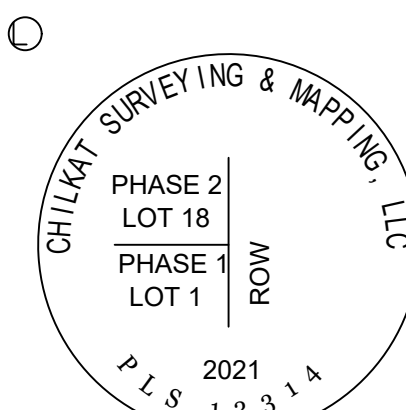
FOUND #5 REBAR  
S 04°55'56" W 1.29 FROM  
CORNER LOCATION  
MONUMENT NOT ACCEPTED  
NO RECORD FOUND ON FILE  
WITH ALASKA DNR



PRIMARY MONUMENT  
2.5" x 30" ALUMINUM PIPE WITH 3.25"  
DIAMETER ALUMINUM CAP



PRIMARY MONUMENT  
2.5" x 30" ALUMINUM PIPE WITH 3.25"  
DIAMETER ALUMINUM CAP



PRIMARY MONUMENT  
2.5" x 30" ALUMINUM PIPE WITH 3.25"  
DIAMETER ALUMINUM CAP

**OWNERSHIP CERTIFICATE:**

WE, HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT WE HEREBY ADOPT THIS PLAT OF SUBDIVISION WITH OUR FREE CONSENT, AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS AND OTHER OPEN SPACES TO PUBLIC OR PRIVATE USE AS NOTED.

DATE: \_\_\_\_\_, 2023

DATE: \_\_\_\_\_, 2023

WILLIAM C. HEUMANN

MICHAEL P. HEUMANN

**NOTARY ACKNOWLEDGEMENT:**

UNITED STATES OF AMERICA )  
)  
STATE OF ALASKA )

THIS IS TO CERTIFY THAT ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2023, BEFORE ME THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED WILLIAM C. HEUMANN AND MICHAEL P. HEUMANN TO ME KNOWN TO BE THE PERSONS DESCRIBED IN AND WHO EXECUTED THE ABOVE AND FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THEY SIGNED AND SEALED THE SAME FREELY AND VOLUNTARILY FOR THE USES AND PURPOSES THEREIN MENTIONED AUTHORIZED TO DO SO.

WITNESS MY HAND AND OFFICIAL SEAL THE DAY AND YEAR IN THIS CERTIFICATE FIRST ABOVE WRITTEN.

NOTARY PUBLIC FOR ALASKA

MY COMMISSION EXPIRES: \_\_\_\_\_

**PLANNING COMMISSION PLAT APPROVAL**

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF JUNEAU, ALASKA AND THAT 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:

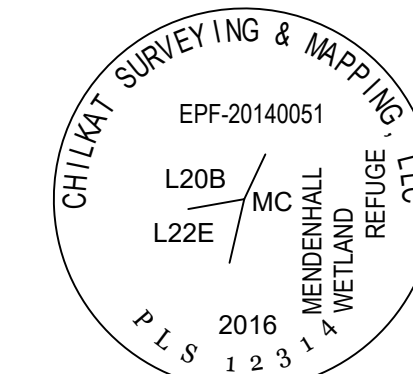
MUNICIPAL CLERK  
CITY AND BOROUGH OF JUNEAU

**NOTES:**

- THE ERROR OF CLOSURE OF THIS SURVEY DOES NOT EXCEED 1:10,000.
- ALL DISTANCES ARE MEASURED IN U.S. SURVEY FEET.
- RECORD INFORMATION DERIVED FROM THE OFFICIAL PLAT OF US SURVEY 3263; US SURVEY 4807, PLAT OF SUBDIVISION OF LOTS 9 AND 10 US SURVEY 3263 TRACT A PLAT NO. 298 RECORDED 9 AUGUST 1961; MOUNTAINSIDE SUBDIVISION PLAT NO. 83-146 RECORDED 23 SEPTEMBER 1983; FAIRWEATHER SUBDIVISION PLAT NO. 83-147 RECORDED 23 SEPTEMBER 1983; DESERET SUBDIVISION PLAT NO. 91-9 RECORDED 28 FEBRUARY 1991; MOUNTAINSIDE SUBDIVISION II PLAT NO. 88-39 RECORDED 28 DECEMBER 1988; RICHLAND MANOR SUBDIVISION PLAT NO. 97-47 RECORDED 24 JULY 1997; VANDERBILT HILL SUBDIVISION PLAT NO. 99-52 RECORDED 29 OCTOBER 1999; A PLAT OF RESUBDIVISION OF LOT 1 CHILKAT VIEW SUBDIVISION PLAT NO. 2003-23; RECORDED 9 SEPTEMBER 2003; CHILKAT VIEW SUBDIVISION II PLAT NO. 2005-20 RECORDED 20 APRIL 2005; A PLAT OF FALLING TREE SUBDIVISION PLAT NO. 2009-18 RECORDED 7 JULY 2009; PLAT OF LOT 2A, CHILKAT VIEW SUBDIVISION II AND TRACT 1A1, US SURVEY 3246 PLAT NO. 2015-41 RECORDED 6 OCTOBER 2015; RAVENWOOD SUBDIVISION PLAT NO. 2019-3 RECORDED 28 JANUARY 2019; CHILKAT VISTAS SUBDIVISION PHASE 1 PLAT NO. 2020-27 RECORDED 11 AUGUST 2020 ON FILE WITH THE ALASKA DEPARTMENT OF NATURAL RESOURCES RECORDERS OFFICE IN THE JUNEAU RECORDING DISTRICT.
- WHERE DIFFERENT FROM RECORD OR CALCULATED, RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS AND REFERENCED TO A RECORDED PLAT (R#).
- DOMESTIC WATER & SANITARY SEWER PROVIDED BY THE CITY AND BOROUGH OF JUNEAU PUBLIC UTILITIES.
- SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
- THE STORMWATER RUNOFF IS ACCEPTABLE PER CHILKAT VISTAS SUBDIVISION DRAINAGE PLAN IN APPROVED CONSTRUCTION PLAN SET. ALL REQUIRED CHILKAT VISTAS SUBDIVISION PUBLIC IMPROVEMENTS INCLUDING SURFACE DRAINAGE, DRIVEWAYS AND ROADSIDE DRAINAGE SHALL BE CONSTRUCTED PRIOR TO FINAL ACCEPTANCE FOR MAINTENANCE BY CBJ PUBLIC WORKS. MODIFICATIONS TO THE APPROVED PLANS WILL NOT BE ALLOWED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120 BEST MANAGEMENT PRACTICES.
- WETLANDS MAY EXIST ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY. WETLANDS DELINEATED BY KOREN BOSWORTH NOVEMBER 2018
- HOOTER LANE WILL BE DEVELOPED AS A PUBLIC TWO-WAY STREET, AS SET OUT IN THE SKETCH PLAT SUBMITTED WITH SMP20190004, SUBJECT TO CBJ PUBLIC IMPROVEMENT STANDARDS IN CBJ 49.35.
- HOOTER LANE FROM GLACIER HIGHWAY TO HILLCREST AVENUE, AND HILLCREST AVENUE AND MOUNTAINSIDE DRIVE SHALL BE DEVELOPED WITH A SIDEWALK ON ONE SIDE. THE NUMBER OF SIDEWALKS IN THE REMAINDER OF CHILKAT VISTAS WILL BE DETERMINED AT THE TIME OF FUTURE DEVELOPMENT APPLICATIONS.
- ROBBIE ROAD SHALL TERMINATE AND SHALL NOT BE A POINT OF ACCESS TO CHILKAT VISTAS, UNLESS REQUIRED, AND GATED, FOR FIRE/EMERGENCY SERVICE ACCESS ONLY.
- HILLCREST AVENUE SHALL TERMINATE AT HOOTER LANE. HILLCREST AVENUE MAY CONNECT TO HOOTER LANE WEST OF THE EXISTING HILLCREST ALIGNMENT AS SHOWN IN THE SKETCH PLAT SUBMITTED WITH SMP20190004. ALTERNATIVELY ROAD ACCESS TO THE NORTHEAST PORTION OF "TRACT A2" MAY CONNECT TO THE EAST/WEST PORTION OF MOUNTAINSIDE DRIVE ACROSS FROM THE ENTRANCE TO THE "POCKET" BETWEEN HILLCREST AND MOUNTAINSIDE.
- OTHER THAN SHOWN, THERE IS AN IMPLIED PRIVATE DRAINAGE EASEMENT ALONG ALL SIDE PROPERTY LINES WITHIN THE SUBDIVISION BEING 10 FEET IN WIDTH CENTERED ON EACH ADJOINING PROPERTY LINE.
- TEMPORARY CUL-DE-SAC EASEMENT SHALL BE VACATED UPON EXTENSION OF HILLCREST AVENUE UNLESS THE DIRECTOR DETERMINES ALL OR A PORTION OF THE CUL-DE-SAC MAY REMAIN.
- PORTION OF 15' DRAINAGE EASEMENT FROM PLAT 2020-27 WITHIN THE BOUNDARY OF LOT 18 VACATED THIS PLAT.
- LOTS 15, 16, 17, 20, 21, 22, 23, 24, AND 26 ARE BUNGALOW LOTS. AT THE TIME OF PLAT RECORDING, STRUCTURES ON LOTS 15, 16, 17, 20, 21, 22, 23, 24, AND 26 RE LIMITED TO ONE 1,000 SQUARE FOOT DETACHED SINGLE FAMILY RESIDENCE PER LOT. OTHER DEVELOPMENT RESTRICTIONS APPLY. SEE THE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.



5/8" x 36" REBAR WITH  
RED PLASTIC CAP



PRIMARY MONUMENT  
2.5" x 30" ALUMINUM PIPE WITH 3.25"  
DIAMETER ALUMINUM CAP WITH CLEAR  
DEEP 1" MAGNET AT THE BASE

**TYPICAL SET MONUMENT DETAIL**

N.T.S.

**SURVEYOR'S CERTIFICATE**

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

DATED: 16 DECEMBER 2022



PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
SUBDIVISION OF  
TRACT A CHILKAT VISTA SUBDIVISION  
A FRACTION OF US SURVEY 4807  
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT ANCHORAGE

CHILKAT SURVEYING & MAPPING, LLC  
10654 PORTER LANE JUNEAU, ALASKA 99801  
907-957-1908

OWNERS  
WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
6000 THANE ROAD JUNEAU, ALASKA 99801

SMP:  
20210004

SCALE:  
NTS

DATE:  
16 DECEMBER 2022

SHEET NO.  
3 OF 3





## Planning Commission

(907) 586-0715  
PC\_Comments@juneau.org  
www.juneau.org/plancomm  
155 S. Seward Street • Juneau, AK 99801

### **PLANNING COMMISSION NOTICE OF DECISION**

Date: February 22, 2022  
File No.: SMP2021 0004

William & Michael Heumann  
6000 Thane Road  
Juneau, AK 99801

Proposal: Preliminary plat review for Chilkat Subdivision Phase II: Proposing subdivision of one tract into 13 lots and three tracts of land at Hillcrest Avenue in a D15 zone.

Property Address: Hillcrest Avenue

Legal Description: Chilkat Vistas Tract A

Parcel Code No.: 7B1001160011

Hearing Date: February 8, 2022

The Planning Commission, at its regular public meeting, adopted the analysis and findings listed in the attached memorandum dated February 1, 2022, and APPROVED the preliminary plat to be conducted as described in the project description and project drawings submitted with the application and with the following conditions:

1. Provide a wetlands fill permit from the United States Army Corps of Engineers.
2. Prior to approval of the final plat, Certification from the CBJ Treasurer is required showing that all real property taxes and special assessments levied against the property for the year of recording have been paid.
3. Prior to approval of a final plat, the applicant shall submit a complete set of construction plans for all required improvements to the Community Development Department for review by the Director of Engineering & Public Works for compliance with CBJ 49.35.140.
4. Prior to approval of the final plat, the applicant has constructed all required improvements or provided a financial guarantee in accordance with CBJ 49.55.010.
5. Prior to approval of the final plat, the developer shall submit a final drainage plan to be approved by CBJ Engineering & Public Works. This drainage plan must be prepared by an Alaskan licensed engineer in accordance with CBJ 49.35.510.

Attachment: February 1, 2022 memorandum from Irene Gallion, Community Development, to the CBJ Planning Commission regarding SMP2021 0004.

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, February 8, 2022.

Expiration Date: The permit will expire five (5) years after the effective date, or February 8, 2027, 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.

---

Michael LeVine, Chair  
Planning Commission

---

Date

---

Filed With City Clerk

---

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.



**COPY**

Treasury Division  
155 S Seward St  
Juneau AK 99801  
907.586.5215 x4907 Phone  
907.586.5367 Fax

## CERTIFICATION OF TAXES AND ASSESSMENTS PAID

I, the undersigned, being duly appointed, qualified Treasurer for the City and Borough of Juneau, First Judicial District, State of Alaska, do hereby certify that, according to the records of the City and Borough of Juneau, the following described real property is carried on the tax records in the name of:

William Heumann and Michael Heumann

Current Owner

CHILKAT VISTAS TR A

Legal Description

7B1001160011

Parcel Code Number

and that, all Real Property taxes and assessments levied by the City and Borough of Juneau against said Real Property have been paid in full. If approval is sought between January 1 and the date of levy, there is on deposit with the Treasury Department an amount sufficient to pay Real Property tax for the current year based on current available information; however, owner remains responsible for the balance of any taxes owed when billing occurs on July 1, 2023.

  
Angie Flick

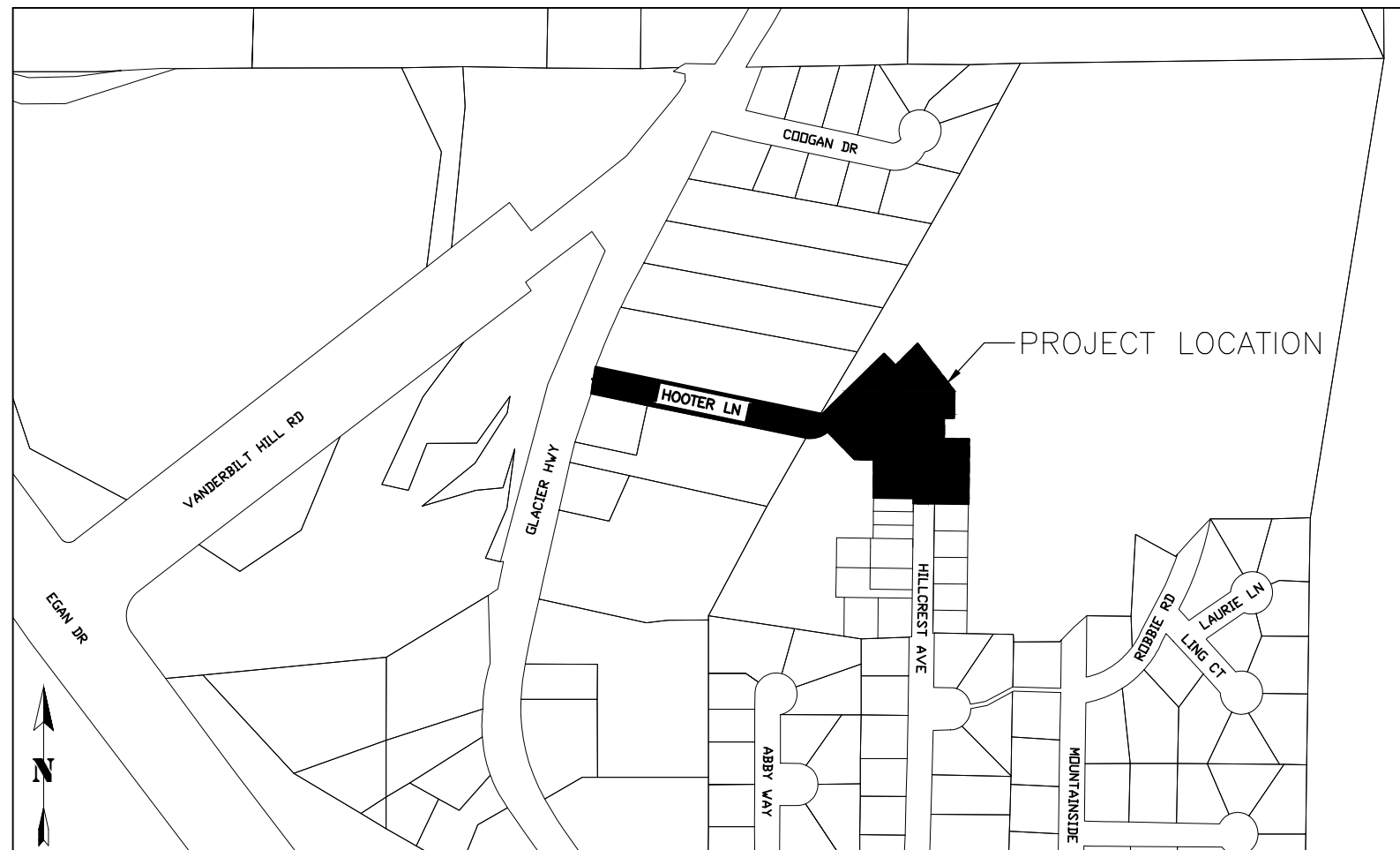
December 28, 2022

Date

**This Certification of Payment of Taxes is valid through December 31, 2023**

# CHILKAT VISTAS SUBDIVISION, PHASE II JUNEAU, AK

PREPARED FOR:  
MICHAEL & WILLIAM HEUMANN



**PROJECT LOCATION MAP**  
NTS

SHEET INDEX	
SHEET NO.	DESCRIPTION
C-1	COVER SHEET
C-2	LEGEND, ABBREVIATIONS & GENERAL NOTES
C-3	TYPICAL SECTIONS – HOOTER LANE
C-4	TYPICAL SECTIONS – HILLCREST AVE
C-5	TYPICAL SECTIONS – GLACIER HWY
C6-C8	DETAIL SHEETS
C-9	SUMMARY TABLES
C-10	PLAN OVERVIEW
C11-C14	R.O.W. GRADING PLAN
C15	PRIVATE LOT GRADING PLAN
C16-C19	ROW PLAN & PROFILE
C-20	EROSION SEDIMENT CONTROL PLAN
C-21	SURVEY CONTROL
E-1	STREET LIGHTING & ELECTRICAL PLAN

CBJ STANDARD DRAWINGS	
CBJ STD NO.	CBJ STD NAME
103A	DRIVEWAY FOR STREETS WITHOUT CURB AND GUTTER
104A	CULVERT HEADWALL WITH HINGED TRASH RACK
104B	CULVERT HEADWALL WITHOUT HINGED TRASH RACK
105	DRIVEWAY CURB CUT
106	ACCESSIBLE SIDEWALK RAMP
111A	CONCRETE SIDEWALK, TYPE I CURB & GUTTER
111B	CURB & GUTTER TYPES II & III
113	UNDERDRAIN
118	STREET LIGHTING
125	PAVEMENT RESURFACING AND TRENCH DETAIL
127A	SIGN ASSEMBLY SINGLE-POST
203	SANITARY SEWER MANHOLE TYPES I&II
205	MANHOLE HEIGHTS
206A	STANDARD MANHOLE COVER AND FRAME
209	MANHOLE CONNECTION DETAILS
213	SANITARY SEWER SERVICE LATERAL
215	SANITARY SEWER CROSSING
303	STORM DRAIN MANHOLE TYPES I & II
304B	TYPE IV CATCH BASIN
307	STORM DRAIN SERVICE LATERAL
308	CURB INLET FRAME, GRATE & HOOD
309	LOCAL DEPRESSION AT CATCH BASIN
310	AREA DRAIN DETAIL
403	FIRE HYDRANT
404	HYDRANT GUARD POSTS
405	HYDRANT PAD
406A	WATER SERVICE
407	MAINLINE VALVE
412	RIGID INSULATION

AKDOT&PF STANDARD PLANS	
DOT STD NO.	AKDOT&PF STD NAME
D-06.10	CULVERT END SECTIONS
D-22.01	STORMDRAIN MANHOLE FRAME & GRATE DETAILS
D-31.01	HEADWALLS, CAST-IN-PLACE, TYPE II
T-20.04	PAVEMENT MARKING APPLICATIONS
T-21.04	PAVEMENT MARKING APPLICATIONS



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
 CHECKED BY: L. CHAMBERS  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004  
 solutions@proHNS.com  
 www.proHNS.com

**CBJ REVIEW**  
 APPROVED: \_\_\_\_\_  
 DATE: \_\_\_\_\_

**CHILKAT VISTAS  
SUBDIVISION, PHASE II**  
 MICHAEL & WILLIAM HEUMANN

**COVER SHEET**

SHEET NUMBER  
**C-1**  
 OF  
**22**

# LEGEND

# ABBREVIATIONS

# GENERAL NOTES

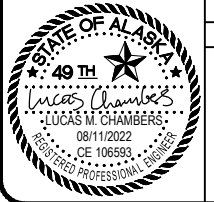
DESCRIPTION	EXISTING	REMOVE	PROPOSED
ASPHALT	EDGE OF ASPHALT		HATCHED AREA
BOLLARDS	● ●		● ●
CONCRETE			[Hatched Box]
CURB & GUTTER	=====		=====
CUT (TOP)	-----		-----
DITCH/DRAINAGE CHANNEL CENTERLINE	----- > -----	----- > -----	----- > -----
EDGE GRAVEL			-----
FENCE	* * * * *		
FILL (TOE)			.....
FIRE HYDRANT	[Hydrant Symbol]		[Hydrant Symbol]
PROPERTY EASEMENT LINE	-----		-----
PROPERTY LINE	-----		-----
SANITARY SEWER CLEANOUT	○		○
SANITARY SEWER PIPE	PIPE SIZE & TYPE	PIPE SIZE & TYPE	PIPE SIZE & TYPE
SANITARY SEWER MANHOLE	[Manhole Symbol]		[Manhole Symbol] (SS-1)
SIDEWALK RAMP			[Ramp Symbol]
SAWCUT & MTE LIMITS			-----
SIGN	[Sign Symbol]		[Sign Symbol]
STORM DRAIN CATCH BASIN	[Catch Basin Symbol]		[Catch Basin Symbol] (S-1)
STORM DRAIN PIPE	PIPE SIZE & TYPE SD	PIPE SIZE & TYPE SD	PIPE SIZE & TYPE SD (P-1)
STORM DRAIN MANHOLE, GRATE	[Manhole Symbol]		[Manhole Symbol] (S-1)
STORM DRAIN UNDERDRAIN	UD UD UD		UD UD UD
TREES	[Tree Symbols]		
UNDERGROUND PIPE CAP	[ ]	[ ]	[ ]
UTILITY POLE	[Pole Symbol]		
UTILITY POLE WITH LUMINAIRE	[Pole Symbol]		
WATER LINE PIPE	PIPE SIZE & TYPE		PIPE SIZE & TYPE
HIGH PRESSURE WATERLINE PIPE	PIPE SIZE & TYPE HP		PIPE SIZE & TYPE HP
WATER VALVE BOX	[Valve Box Symbol]		[Valve Box Symbol]

AC	ASPHALT CONCRETE
ACP	ASBESTOS CEMENT PIPE
BOP	BEGINNING OF PROJECT
BTM	BOTTOM
BVC	BEGIN VERTICAL CURVE
CB	CATCH BASIN
CBJ	CITY & BOROUGH OF JUNEAU
C/L	CENTERLINE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
CONC	CONCRETE
CTE	CONNECT TO EXISTING
DI	DUCTILE IRON
DIA	DIAMETER
EL	ELEVATION
EOP	END OF PROJECT
EP	EDGE OF PAVEMENT
EVC	END VERTICAL CURVE
FG	FINISHED GRADE
GP	GRADE POINT
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
LG	LIP OF GUTTER
LP	LOW POINT
LT	LEFT
MH	MANHOLE
MIN	MINIMUM
MTE	MATCH TO EXISTING
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PRC	POINT OF REVERSE CURVATURE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
RP	RADIUS POINT
RT	RIGHT
ROW	RIGHT-OF-WAY
STA	STATION
STD	STANDARD
TBC	TOP BACK OF CURB
TBG	TOP BACK OF GUTTER
TP	TOP OF PAVEMENT
TYP	TYPICAL
VPC	VERTICAL POINT OF CURVATURE
VPT	VERTICAL POINT OF TANGENCY

1. CBJ ENGINEERING STANDARD DETAILS BOOK FOR CIVIL ENGINEERING PROJECTS AND SUBDIVISION IMPROVEMENTS FOURTH ADDITION DATED AUGUST, 2011 AND CBJ ENGINEERING STANDARD SPECIFICATIONS DATED DECEMBER, 2003 ARE MADE A PART OF THIS CONTRACT, INCLUDING ALL ERRATA (NOS. 1-16) AND CURRENT REVISIONS AS APPLICABLE.
2. CALL 586-1333 BEFORE YOU DIG FOR UNDERGROUND POWER, TELEPHONE AND CABLE. CALL 811 ALASKA DIGLINE BEFORE YOU DIG FOR UNDERGROUND ACS & GCI. LOCATIONS AND ELEVATION OF EXISTING UNDERGROUND WATER, SEWER, POWER, TELEPHONE AND CABLE TELEVISION SHOWN ON THE PLANS WERE DERIVED FROM CBJ AS-BUILTS AND FIELD LOCATES. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING THE UTILITIES THROUGHOUT THE CONSTRUCTION OF THE PROJECT. ANY DAMAGE TO THE UNDERGROUND UTILITIES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
3. THE ESTIMATED TOTAL AREA OF DISTURBANCE RESULTING FROM THESE IMPROVEMENTS WILL BE OVER 1.00 ACRE. THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL DEVICES AS SPECIFIED IN THE PROJECT SPECIFIC SWPPP.
4. THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC) HAS IDENTIFIED ONE "ACTIVE" CONTAMINATED SITE WITHIN 1,500 FEET OF THE PROJECT LIMITS. THE ACTIVE CONTAMINATED SITE IS AT 5165 GLACIER HWY (GAS N GO), SEE DEC.ALASKA.GOV FOR MORE INFO. THERE ARE NO SITES LISTED AS "INSTITUTIONAL CONTROL" WITHIN 1,500 OF THE PROJECT LIMITS. THERE ARE SEVERAL SITES LISTED AS "CLEANUP COMPLETE" WITHIN 1,500 FEET OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSULT DEC AND OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK.
5. FINISHED GRADE AND ALIGNMENT ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER. LOCATION OF PROPOSED WATER, SEWER AND STORM DRAINAGE FACILITIES ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
6. AEL&P, ACS AND GCI MAY CONDUCT WORK WITHIN THE PROJECT LIMITS TO RELOCATE UTILITIES AND TO UPGRADE THEIR RESPECTIVE SYSTEMS, THE CONTRACTOR SHALL COORDINATE ITS ACTIVITIES WITH EACH UTILITY COMPANY AND PROVIDE ACCESS AS NECESSARY FOR UTILITY COMPANIES TO COMPLETE THERE WORK.
7. THE CONTRACTOR SHALL PERFORM A CLOSED LEVEL LOOP THROUGH ALL TBM'S AS LISTED HEREON TO VERIFY ELEVATIONS PRIOR TO BEGINNING ANY WORK.
8. CONTRACTOR SHALL REFERENCE ALL EXISTING PROPERTY CORNER MONUMENTS (I.E. BRASS CAP MONUMENTS, REBARS, CONCRETE NAILS, CHISELED X'S) PRIOR TO CONSTRUCTION AND REMONUMENT AFTER SURFACING IS REPLACED. EXISTING SURVEY MONUMENTS MAY NOT BE SHOWN ON THE DRAWINGS. ALL WORK SHALL BE DONE BY, OR UNDER THE DIRECTION OF, AN ALASKA REGISTERED LAND SURVEYOR.
9. THE CONTRACTOR SHALL NOTIFY CBJ WATER UTILITIES (LONI VANKIRK AT 723-4975) OF PROPOSED WATER SERVICE INTERRUPTION AND SUBMIT THE "WATER SYSTEM SPECIAL USE PERMIT" TO CBJ WATER UTILITIES SUPERINTENDENT FOR APPROVAL AT LEAST 48 HOURS PRIOR TO SHUTDOWN OR FLUSHING OF MAINLINE WATER PIPE. NO WATER SERVICE INTERRUPTION MAY PROCEED UNTIL THIS APPROVAL IS OBTAINED. THE CONTRACTOR CANNOT SHUT OFF WATER SUPPLY TO SERVICES FOR MORE THAN 4 HOURS AT ONE TIME.
10. ALL MATERIALS PROPOSED FOR THE WATER SYSTEM THAT COME IN DIRECT CONTACT WITH THE WATER SHALL BE CERTIFIED BY AN ANSI ACCREDITED ORGANIZATION TO CONFORM WITH ANSI/NSF STANDARD 61 OR AN ANSI/NSF STANDARD WITH EQUIVALENT HEALTH REQUIREMENTS.
11. THE MATERIALS USED FOR THIS PROJECT SHALL COMPLY WITH THE NEW LEAD FREE REQUIREMENTS INCLUDING NOT MORE THAN 0.2% WHEN USED WITH RESPECT TO SOLDER AND FLUX AND NOT MORE THAN A WEIGHTED AVERAGE OF 0.25% LEAD WHEN USED WITH RESPECT TO THE WETTED SURFACES OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS AND FIXTURES.
12. ONLY HORIZONTAL ELBOW FITTINGS (BENDS) ARE SHOWN (NOT ALL ARE LABELED) ON DRAWINGS. ADDITIONAL FITTINGS WILL BE REQUIRED FOR VERTICAL DEFLECTIONS NEAR CONNECTIONS TO EXISTING PIPES, AND AT OTHER LOCATIONS REQUIRING GRADE CHANGES TO AVOID CONFLICTS.
13. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF OFF-SITE, EXCEPT AS NOTED IN THE CONTRACT DOCUMENTS.
14. PROVIDE KNOCKOUTS IN PRECAST STORM DRAIN STRUCTURES FOR ALL PIPES SHOWN ON THE PLANS.
15. "JUMPING JACK", OR SIMILAR TYPE COMPACTORS SHALL BE USED FOR COMPACTION WITHIN 18-INCHES OF THE OUTSIDE SURFACE OF ALL WATER VALVE BOXES, CATCH BASINS AND MANHOLES.
16. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING WATER AND SEWER PIPES, INCLUDING ALL SERVICES ALONG THE STORM DRAIN AND WATER PIPE ALIGNMENTS TO DETERMINE PIPE INSULATION LOCATIONS AND TO ENSURE DAMAGE DOES NOT OCCUR TO THE PIPES.
17. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF BURIED ELECTRICAL AND COMMUNICATION CONDUITS & CABLES PRIOR TO INSTALLATION OF NEW STORM DRAIN AND SANITARY SEWER PIPES.

## PERMITS

1. ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES DRIVEWAY AND APPROACH ROAD PERMIT NO. 30955 DATED 2-24-22.
2. ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES SPECIAL USE PERMIT NO. JNU SUP 21-007.
3. UNITED STATES ARMY CORPS OF ENGINEERS PERMIT NO. POA-2019-00066-M1.
4. ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION DRINKING WATER PERMIT NO. TBD.
5. ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION WASTEWATER PERMIT NO. TBD.
6. ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION STORM WATER POLLUTION PREVENTION PERMIT NO. AK10GE14.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**

1945 ALEX HOLDEN WAY #101  
JUNEAU, AK 99801  
(907) 780-4004

CERTIFICATE OF AUTHORIZATION #100662

solutions@proHNS.com  
www.proHNS.com

**CBJ REVIEW**

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

APPROVED: \_\_\_\_\_  
DATE: \_\_\_\_\_

**CHILKAT VISTAS  
SUBDIVISION, PHASE II**

MICHAEL & WILLIAM HEUMANN

**LEGEND,  
ABBREVIATIONS AND  
GENERAL NOTES**

SHEET NUMBER
<b>C-2</b>
OF
<b>22</b>

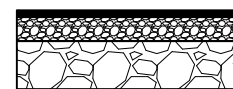
C:\Users\lucas\proHNS Dropbox\Projects\Juneau\Richland Manor\Subdivision\CSD Richland Manor\Sheets\Hillcrest Extension -Phase II - Legend.dwg August 11, 2022

# TYPICAL SECTION NOTES

- BETWEEN ~STA: 13+00 TO STA 16+75 18" SHOTROCK BORROW, 8" PVC SANITARY SEWER MAIN, DITCH, BACKSLOPE CUT AND DITCH LINING ALREADY INSTALLED AS PART OF HOOTER LANE PHASE I ROW IMPROVEMENTS PROJECT.
- NOT ALL UNDERGROUND UTILITIES SHOWN IN TYPICAL SECTIONS FOR CLARITY. SEE PLAN SHEETS FOR ADDITIONAL UTILITY LOCATION INFORMATION.
- ENTIRE RIGHT-OF-WAY AND ROAD PRISM SHALL BE CLEARED AND GRUBBED. HOOTER LANE STA: 11+65 TO 16+75 HAS ALREADY BEEN CLEARED AND GRUBBED AS PART OF THE HOOTER LANE PHASE I ROW IMPROVEMENTS PROJECT.
- CLEAR, GRUB AND INSTALL SHOT ROCK BORROW OR USABLE EXCAVATION, AS NECESSARY, WHERE EXISTING GROUND IS BELOW EXCAVATION LIMITS.
- ADDITIONAL EXCAVATION BELOW THE NEATLINE SUBCUT LEVEL MAY BE REQUIRED IF ORGANIC OR OTHER UNSUITABLE MATERIALS ARE ENCOUNTERED. EXCAVATION AND REPLACEMENT OF UNSUITABLE MATERIALS SHALL BE APPROVED BY THE ENGINEER.
- IF SUBGRADE BELOW EXCAVATION LIMITS IS CLAY INSTALL FILTER FABRIC, TYPE C PER CBJ STANDARD SPECIFICATION SECTION 02714 - FILTER CLOTH AT LOCATIONS AS DIRECTED BY THE ENGINEER.
- LARGE BOULDERS, HARDPAN, STUMPS, LOGS, ORGANICS AND GROUND WATER MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING TRENCHING, DITCHING AND ROADWAY EXCAVATION OPERATIONS. THESE MATERIALS SHALL BE DISPOSED OF AS REQUIRED BY THE ENGINEER.
- ALL CUT AND FILL SLOPES NOT STABILIZED WITH SHOT ROCK SHALL BE TOP/NATIVE SOILED AND SEEDED.
- SEE R.O.W. PLAN SHEETS FOR DRIVEWAY CUT AND DEPRESSED CURB LOCATIONS.

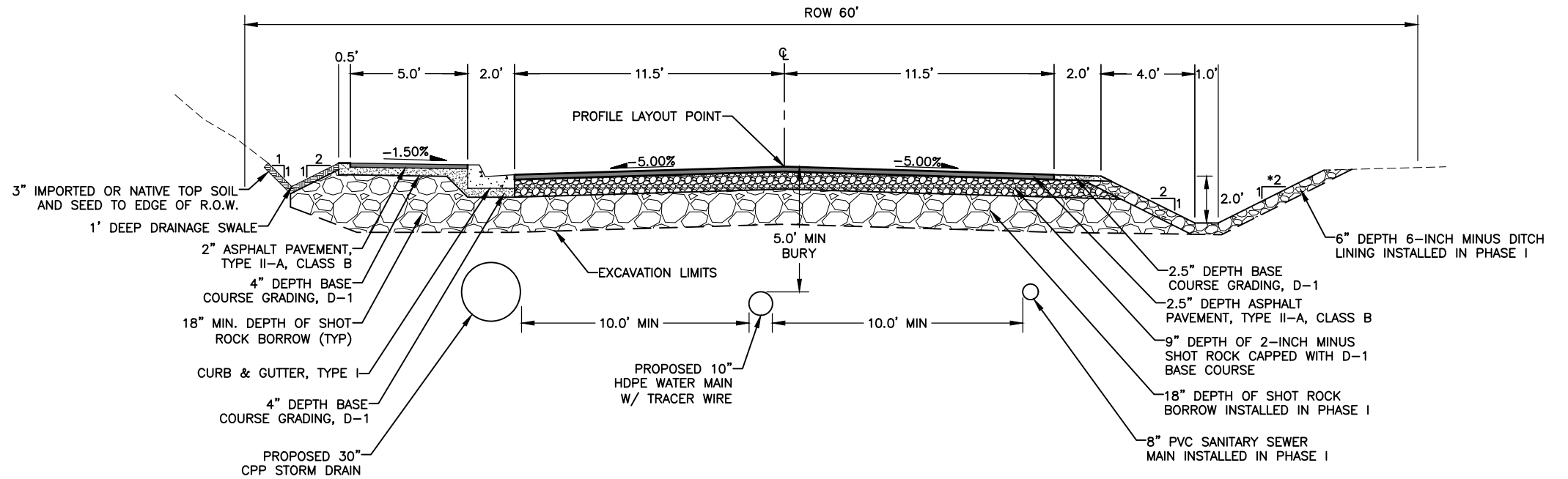
# PAVING NOTES

- LAYDOWN OPERATIONS SHALL BE CONDUCTED IN A MANNER WHICH ENSURES THAT THE MINIMUM TEMPERATURE ALONG THE CENTERLINE EDGE OF THE FIRST PAVED LANE DOES NOT FALL BELOW 200°F BEFORE THE SECOND LANE IS PAVED.



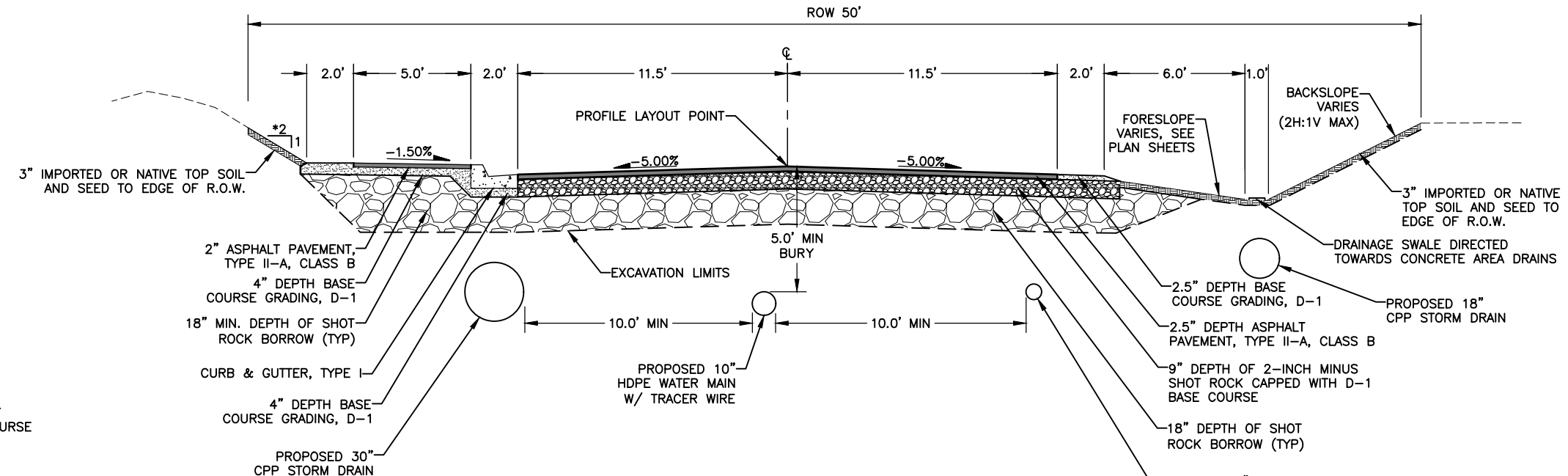
- 2.5" DEPTH ASPHALT PAVEMENT, TYPE II-A, CLASS B
- 9" DEPTH OF 2-INCH MINUS SHOT ROCK CAPPED WITH D-1 BASE COURSE
- 18" DEPTH OF SHOT ROCK BORROW (TYP)

TAMARACK TRAIL DRIVEWAYS  
STRUCTURAL SECTION  
NTS



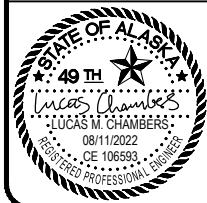
HOOTER LN STA 11+63 TO 16+75 TYPICAL SECTION  
NTS

- \*BACKSLOPE VARIES, SEE NOTE 1
- 1:1 STA: 11+75 TO 13+00
- 1.5:1 STA: 13+00 TO 13+95
- 2:1 STA: 13+95 TO 16+75



HOOTER LN STA 17+42 TO 18+42 TYPICAL SECTION  
NTS

- \*INSTALL 1' DEEP DRAINAGE SWALE OFF BACK OF SIDEWALK STA: 18+42 TO 19+41



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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

1945 ALEX HOLDEN WAY #101  
JUNEAU, AK 99801  
(907) 780-4004

solutions@proHNS.com  
www.proHNS.com

**CBJ REVIEW**

APPROVED: \_\_\_\_\_

DATE: \_\_\_\_\_

**CHILKAT VISTAS  
SUBDIVISION, PHASE II**

MICHAEL & WILLIAM HEUMANN

**TYPICAL SECTIONS -  
HOOTER LANE**

SHEET NUMBER  
**C-3**  
OF  
**22**

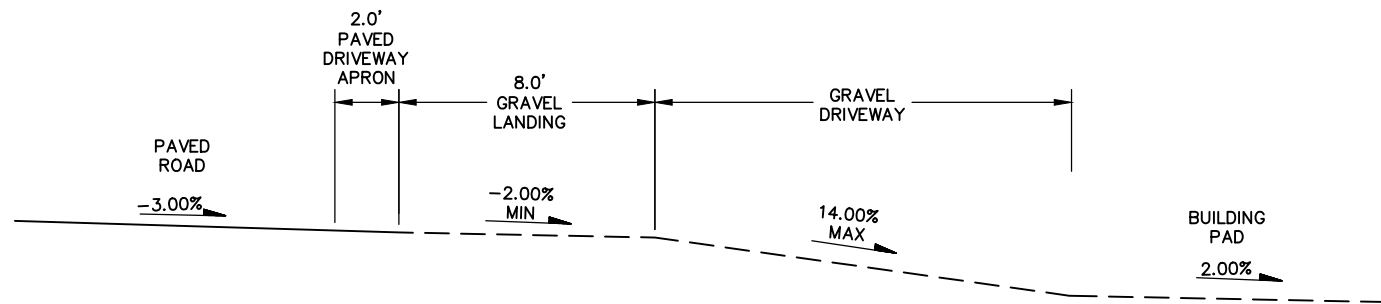


# TYPICAL SECTION NOTES

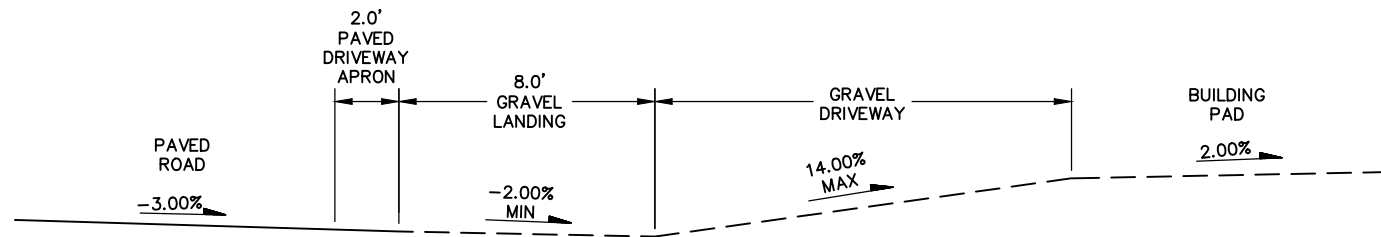
1. NOT ALL UNDERGROUND UTILITIES SHOWN IN TYPICAL SECTIONS FOR CLARITY. SEE PLAN SHEETS FOR ADDITIONAL UTILITY LOCATION INFORMATION.
2. ENTIRE RIGHT-OF-WAY AND ROAD PRISM SHALL BE CLEARED AND GRUBBED.
3. CLEAR, GRUB AND INSTALL SHOT ROCK BORROW OR USABLE EXCAVATION, AS NECESSARY, WHERE EXISTING GROUND IS BELOW EXCAVATION LIMITS.
4. ADDITIONAL EXCAVATION BELOW THE NEATLINE SUBCUT LEVEL MAY BE REQUIRED IF ORGANIC OR OTHER UNSUITABLE MATERIALS ARE ENCOUNTERED. EXCAVATION AND REPLACEMENT OF UNSUITABLE MATERIALS SHALL BE APPROVED BY THE ENGINEER.
5. IF SUBGRADE BELOW EXCAVATION LIMITS IS CLAY INSTALL FILTER FABRIC, TYPE C PER CBJ STANDARD SPECIFICATION SECTION 02714 - FILTER CLOTH AT LOCATIONS AS DIRECTED BY THE ENGINEER.
6. LARGE BOULDERS, HARDPAN, STUMPS, LOGS, ORGANICS AND GROUND WATER MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING TRENCHING, DITCHING AND ROADWAY EXCAVATION OPERATIONS. THESE MATERIALS SHALL BE DISPOSED OF AS REQUIRED BY THE ENGINEER.
7. ALL CUT AND FILL SLOPES NOT STABILIZED WITH SHOT ROCK SHALL BE TOP/NATIVE SOILED AND SEEDED.
8. SEE R.O.W. PLAN SHEETS FOR DRIVEWAY CUT AND DEPRESSED CURB LOCATIONS.
9. SEE GRADING SHEET FOR GRADING INFORMATION FROM HILLCREST STATION 5+91 TO 6+67.

# PAVING NOTES

1. LAYDOWN OPERATIONS SHALL BE CONDUCTED IN A MANNER WHICH ENSURES THAT THE MINIMUM TEMPERATURE ALONG THE CENTERLINE EDGE OF THE FIRST PAVED LANE DOES NOT FALL BELOW 200°F BEFORE THE SECOND LANE IS PAVED.



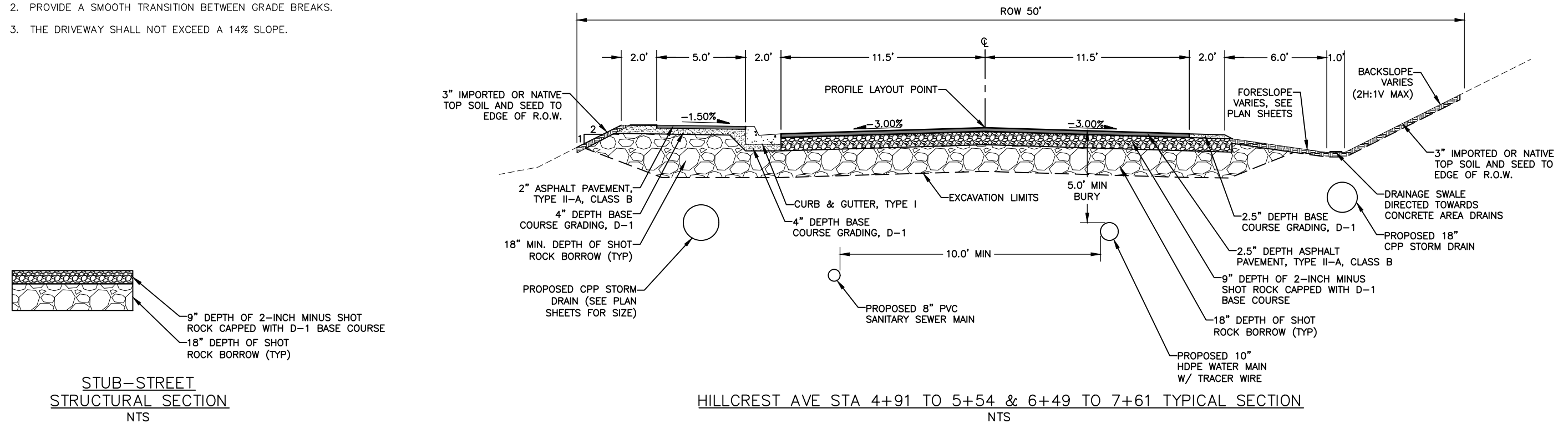
DRIVEWAY PROFILE FOR PRIVATE LOTS BELOW ROAD GRADE  
LOTS (18,19&20)  
NTS



DRIVEWAY PROFILE FOR PRIVATE LOTS ABOVE ROAD GRADE  
LOTS (15,16,17,21,22,23,24,25,26&27)  
NTS

DRIVEWAY PROFILE NOTES:

1. SEE STD 103A FOR ADDITIONAL DETAILS.
2. PROVIDE A SMOOTH TRANSITION BETWEEN GRADE BREAKS.
3. THE DRIVEWAY SHALL NOT EXCEED A 14% SLOPE.



STUB-STREET  
STRUCTURAL SECTION  
NTS

HILLCREST AVE STA 4+91 TO 5+54 & 6+49 TO 7+61 TYPICAL SECTION  
NTS



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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CBJ REVIEW  
APPROVED: \_\_\_\_\_  
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CHILKAT VISTAS  
SUBDIVISION, PHASE II  
MICHAEL & WILLIAM HEUMANN

TYPICAL SECTIONS -  
HILLCREST AVE

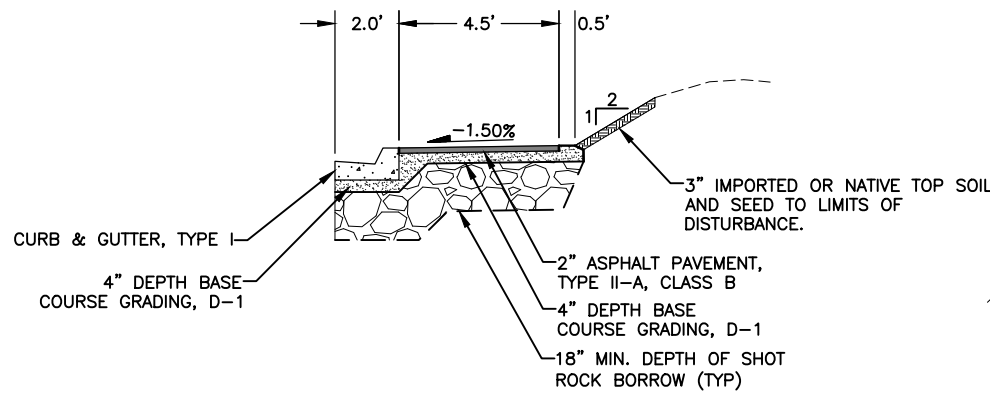
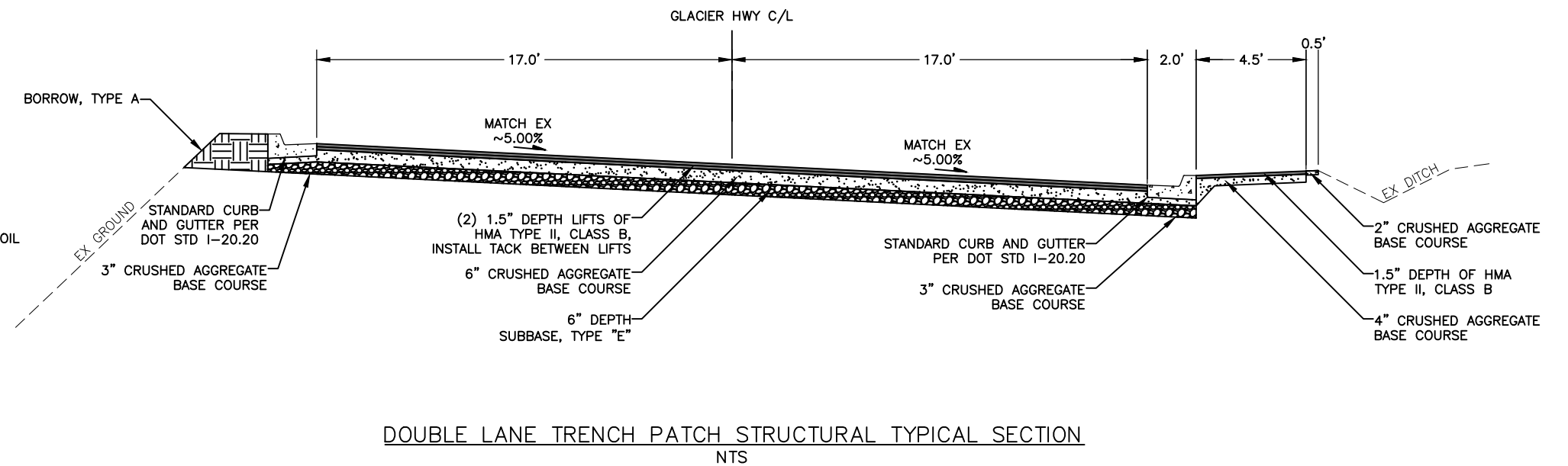
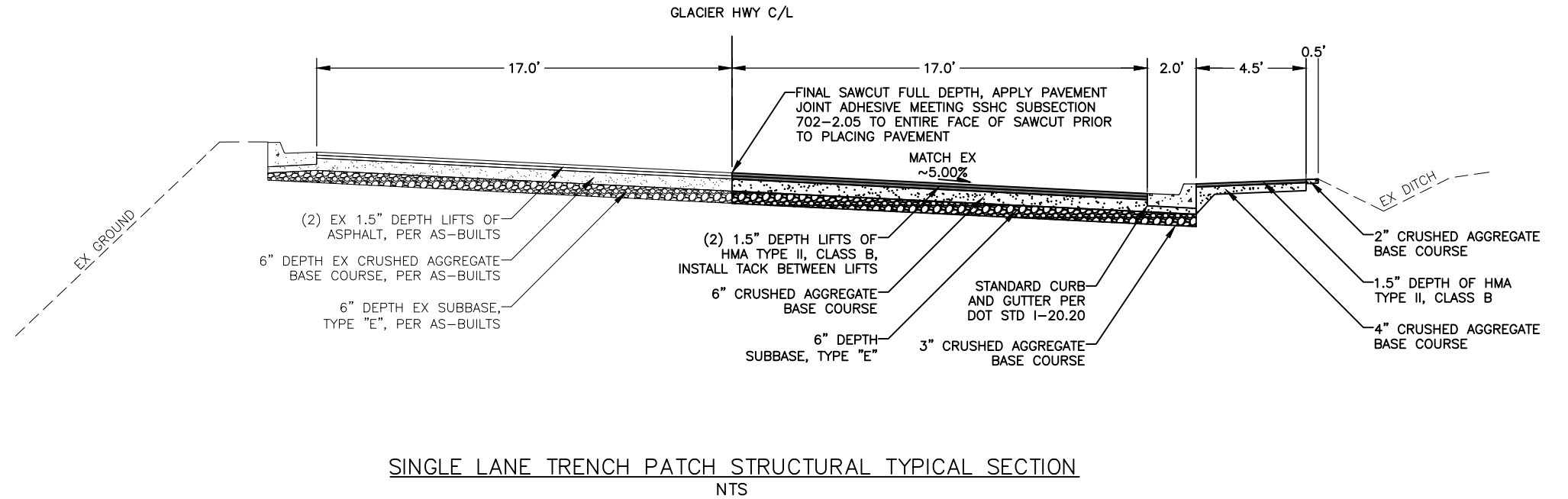
SHEET NUMBER  
C-4  
OF  
22

# TYPICAL SECTION NOTES

- AKDOT&PF PERMIT JNU SUP 21-007 AND dw30955 IS MADE PART OF THIS PLAN SET. CONTRACTOR IS RESPONSIBLE FOR REVIEWING PERMIT AND ENSURING COMPLIANCE WITH ALL REQUIREMENTS INCLUDING APPROVED TRAFFIC CONTROL PLAN.
- ALL MATERIALS AND CONSTRUCTION IN THE GLACIER HWY R.O.W. SHALL CONFORM TO AKDOT&PF "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2020 EDITION". PIPE BEDDING, BACKFILL AND ROADWAY STRUCTURAL SECTION COMPACTION RESULTS SHALL BE PROVIDED TO AKDOT&PF PRIOR TO PAVING ON GLACIER HWY.
- PROPOSED STRUCTURAL SECTION DESIGNED TO MATCH EXISTING AS SHOWN ON THE "SALMON CREEK TO VANDERBILT HILL GRADING, PAVING & DRAINAGE - PROJECT NO. 70469" AS-BUILTS.
- CONTRACTOR TO VERIFY A MINIMUM 0.5% SLOPE ALONG GUTTER FLOW LINE TOWARDS EX CATCH BASIN OR SPILLWAY BEFORE POURING CURB.
- EXISTING GUARDRAIL, MAILBOXES, SIGNS, UTILITY POLES AND OTHER SITE FEATURES NOT SHOWN.
- FINAL SAWCUT SHOWN IN PLANS. CONTRACTOR SHALL MAKE INITIAL SAWCUT LINE 6-12" FROM SAWCUT LINE. FINAL SAWCUT SHALL BE PERFORMED WITHIN 24 HOURS OF PAVING OPERATIONS.

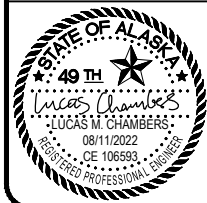
# PAVING NOTES

- LAYDOWN OPERATIONS SHALL BE CONDUCTED IN A MANNER WHICH ENSURES THAT THE MINIMUM TEMPERATURE ALONG THE CENTERLINE EDGE OF THE FIRST PAVED LANE DOES NOT FALL BELOW 200°F BEFORE THE SECOND LANE IS PAVED.



SIDEWALK TYPICAL SECTION HOOTER/GLACIER INTERSECTION RIGHT NTS

DOUBLE LANE TRENCH PATCH STRUCTURAL TYPICAL SECTION NTS



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No.	DATE	DESCRIPTION	BY



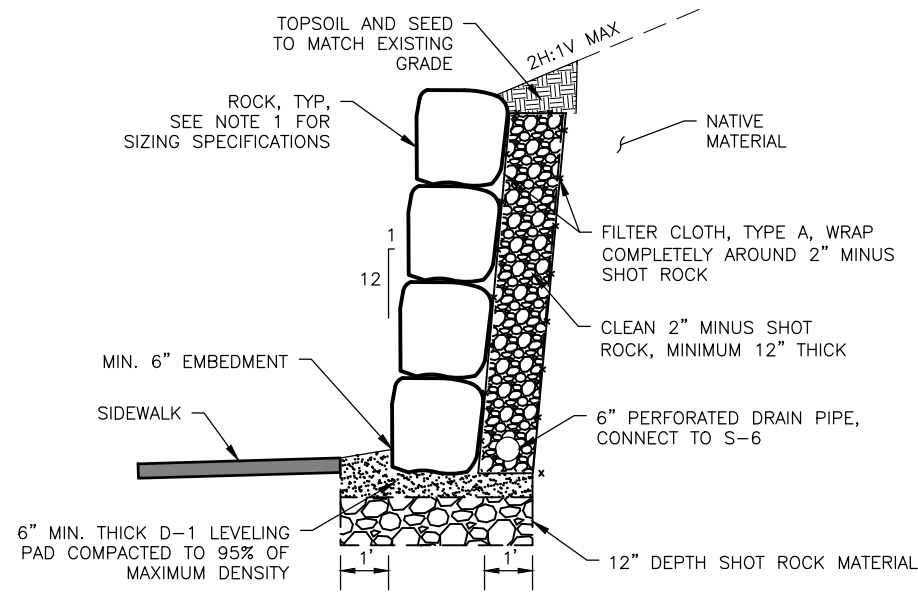
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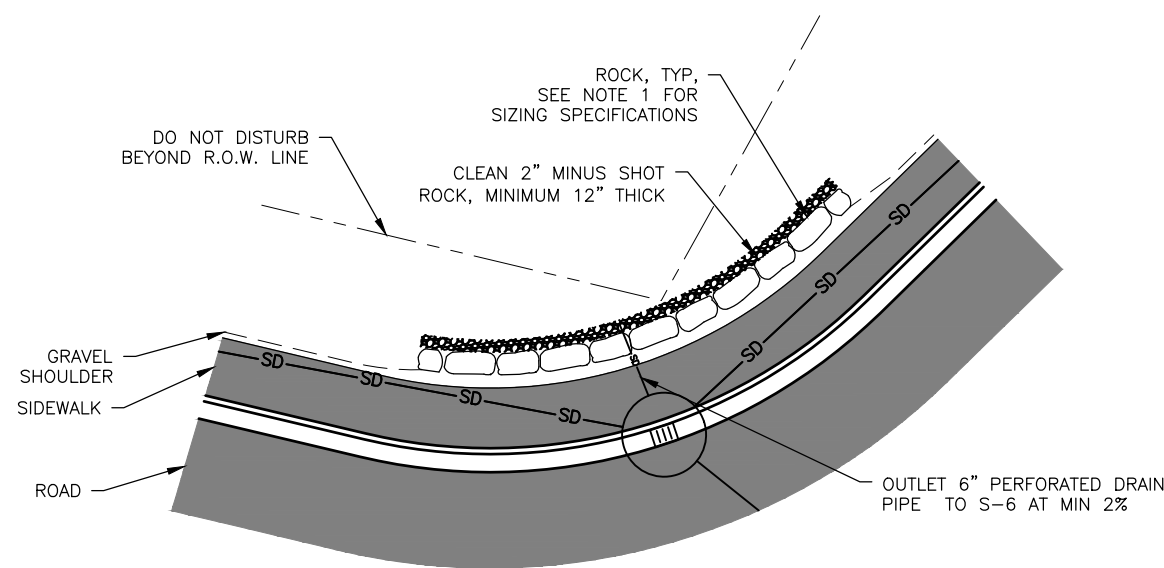
**CHILKAT VISTAS SUBDIVISION, PHASE II**  
 MICHAEL & WILLIAM HEUMANN

**TYPICAL SECTIONS - GLACIER HWY**

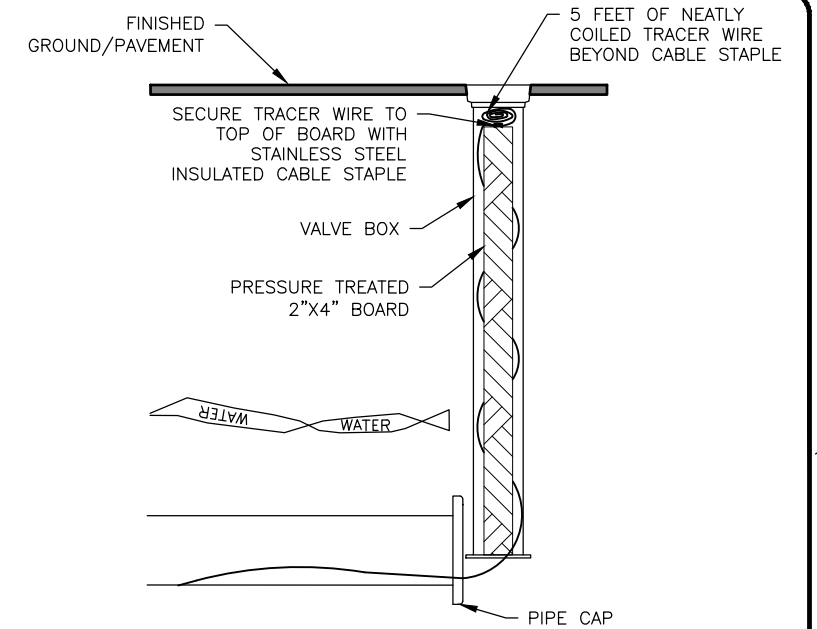
SHEET NUMBER  
**C-5**  
 OF  
**22**



SECTION VIEW



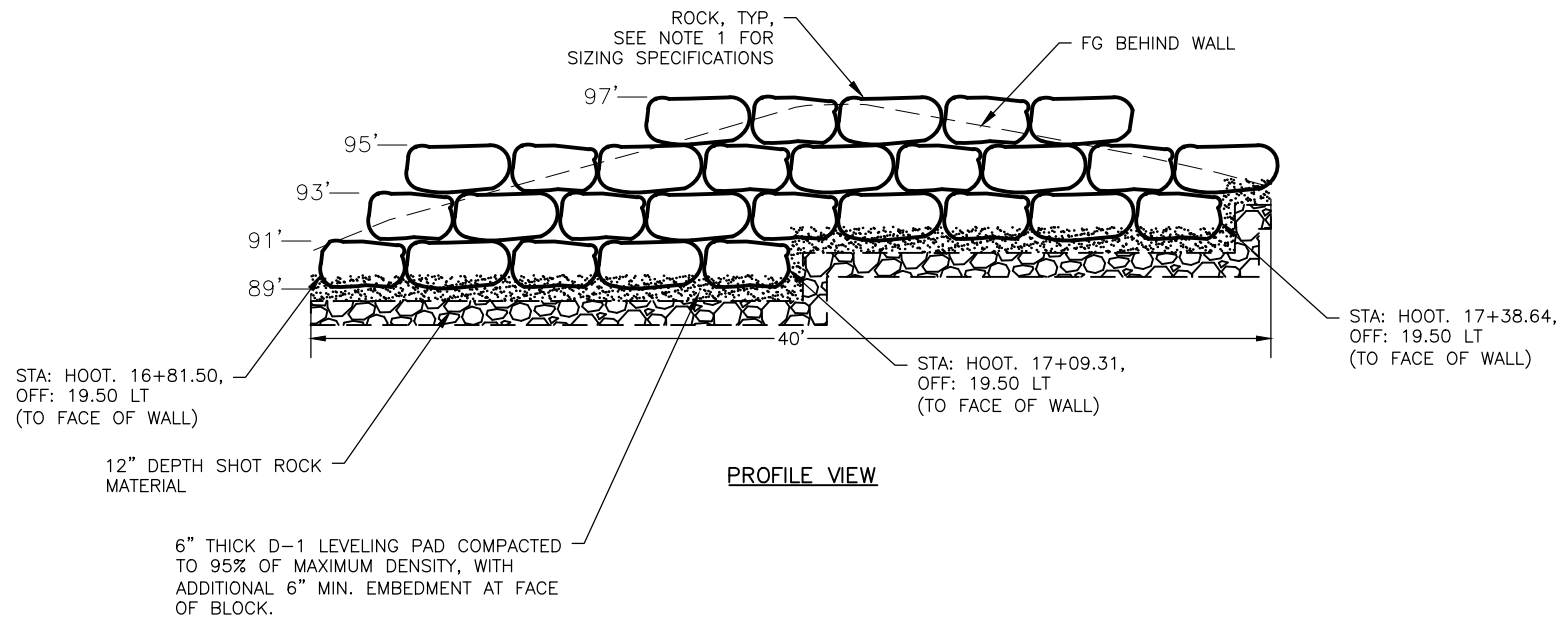
PLAN VIEW



2/6 TRACER WIRE TERMINATION BOX  
SCALE: NOT TO SCALE

DETAIL 2/6 NOTES:

1. DETAIL 2/6 IS INTENDED TO SHOW THE TRACER WIRE TERMINATION BOX PER ADDENDUM 16. NO CBJ STANDARDS HAVE BEEN MODIFIED BY THIS DETAIL. ALL OTHER ELEMENTS SHOWN (WATERLINE, WARNING TAPE, ETC.) SHALL BE INSTALLED PER APPLICABLE CBJ STANDARD SPECIFICATIONS AND STANDARD DETAILS.

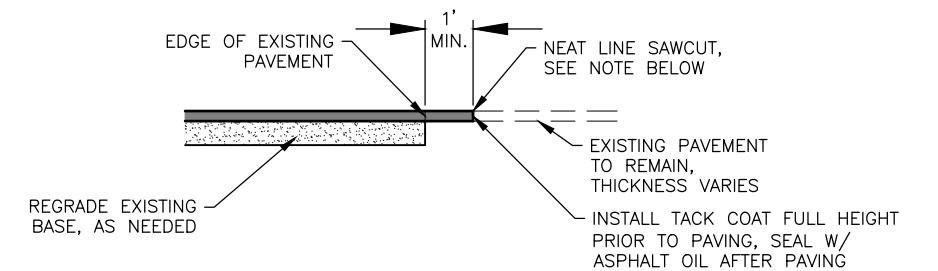


PROFILE VIEW

1/6 ROCK WALL DETAIL  
SCALE: NOT TO SCALE

DETAIL 1/6 NOTES:

1. EACH ROCK SHALL HAVE A MINIMUM CIRCUMFERENCE OF 12 FEET ALONG THE PRIMARY AXIS, AND A MINIMUM CIRCUMFERENCE OF 8 FEET ALONG THE SECONDARY AXIS.
2. ROCKS SHALL BE PLACED IN A MANNER THAT MINIMIZES VOID SPACE BETWEEN ROCKS, AS DIRECTED BY THE ENGINEER.
3. DESIGN SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
4. IF A CONSTRUCTION EASEMENT IS OBTAINED FROM THE ADJACENT PROPERTY OWNER, THE ROCK WALL MAY BE REPLACED WITH A 2H:1V CUT SLOPE, CONSISTENT WITH THE SURROUNDING RIGHT-OF-WAY. NO WORK OR DISTURBANCE SHALL OCCUR ON PRIVATE PROPERTY WITHOUT A WRITTEN AGREEMENT FROM THE PROPERTY OWNER AND APPROVAL OF THE ENGINEER.



3/6 PAVEMENT MATCH JOINT  
SCALE: NOT TO SCALE

DETAIL 3/6 NOTES:

1. FINAL SAWCUT OF EXISTING ASPHALT SHALL NOT BE MADE UNTIL 24 HOURS PRIOR TO PAVING.



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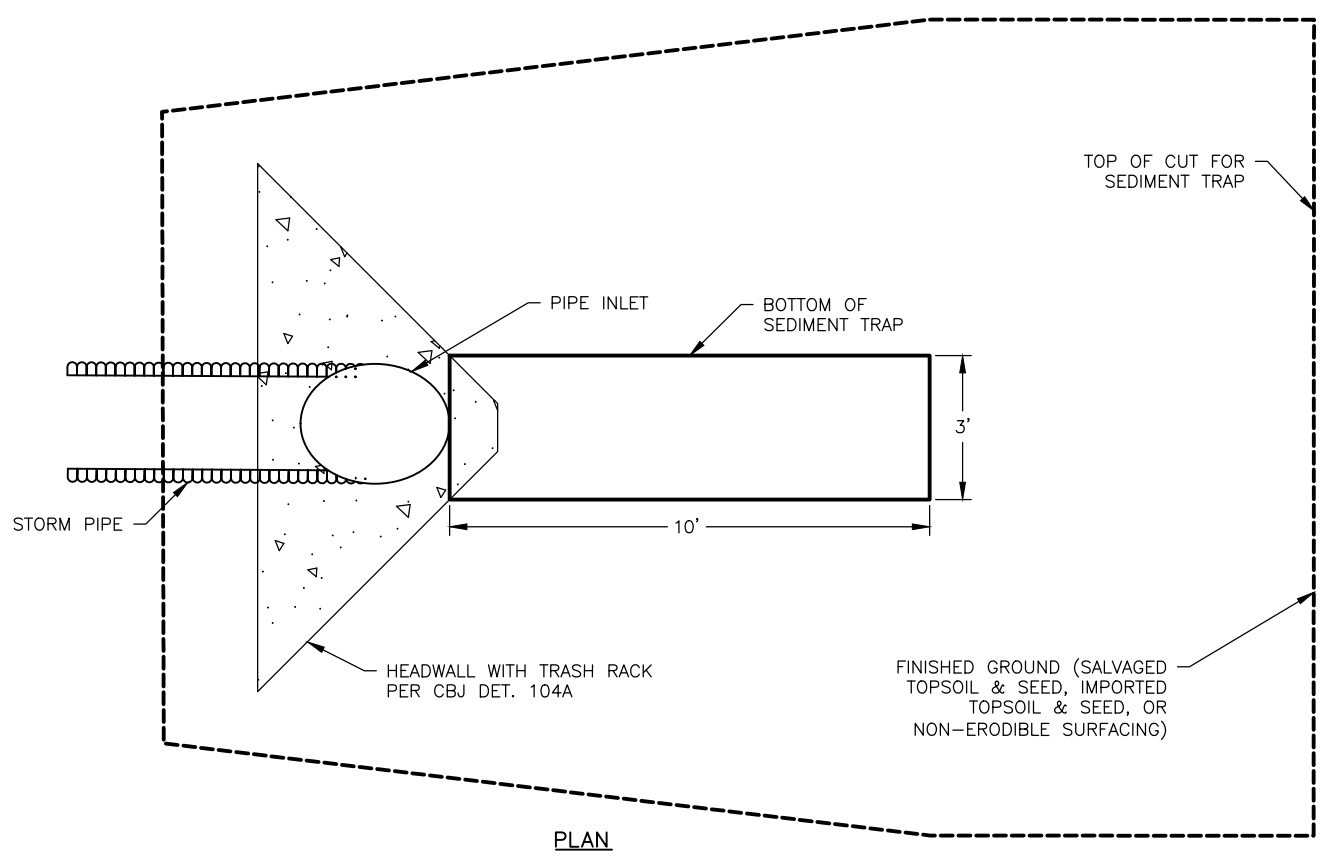
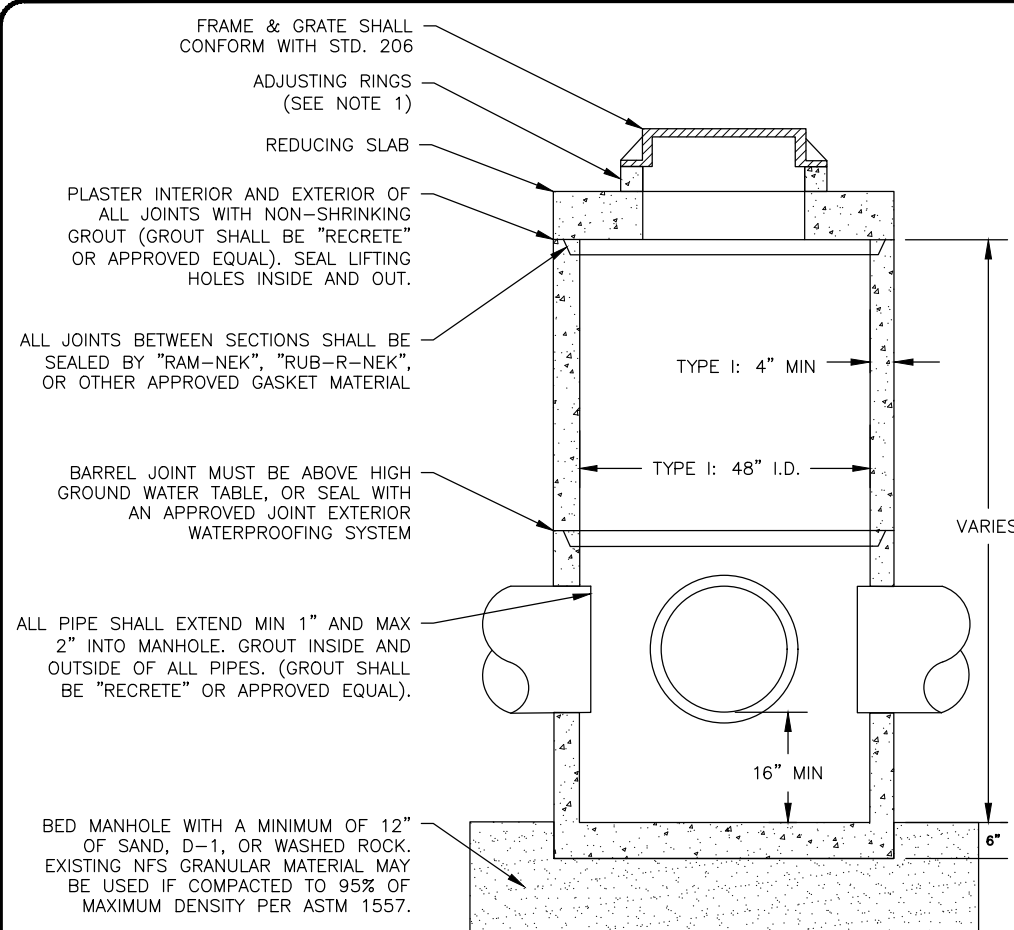
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CHILKAT VISTAS  
SUBDIVISION, PHASE II  
MICHAEL & WILLIAM HEUMANN

DETAILS - RETAINING  
WALL AND TRACER WIRE  
TERMINATION BOX

SHEET NUMBER  
C-6  
OF  
22



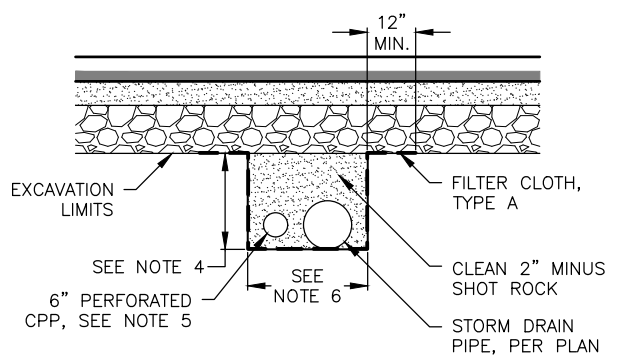
**1**  
**7**

**CONCENTRIC STORM DRAIN MANHOLE WITH REDUCING SLAB - TYPE I & II**

SCALE: NOT TO SCALE

**DETAIL 1/7 NOTES:**

1. THE AREA BETWEEN THE TOP OF THE CATCH BASIN AND THE FRAME SHALL BE FILLED WITH CONCRETE MEETING THE REQUIREMENTS OF CBJ SPECIFICATION 03302-CONCRETE STRUCTURES. NO BRICKS, WOOD, STONES, ADJUSTING RINGS, OR OTHER GRADE ADJUSTMENT DEVICES SHALL BE USED. TEMPORARY FORM WORK SHALL BE CONSTRUCTED TO PROVIDE A SMOOTH INSIDE EXPOSED SURFACE FREE OF VOIDS AND PROJECTIONS. THE CONSTRUCTED FRAME SUPPORT MUST MATCH THE INTERIOR OF THE FRAME INSTALLED AS APPROVED BY THE ENGINEER.



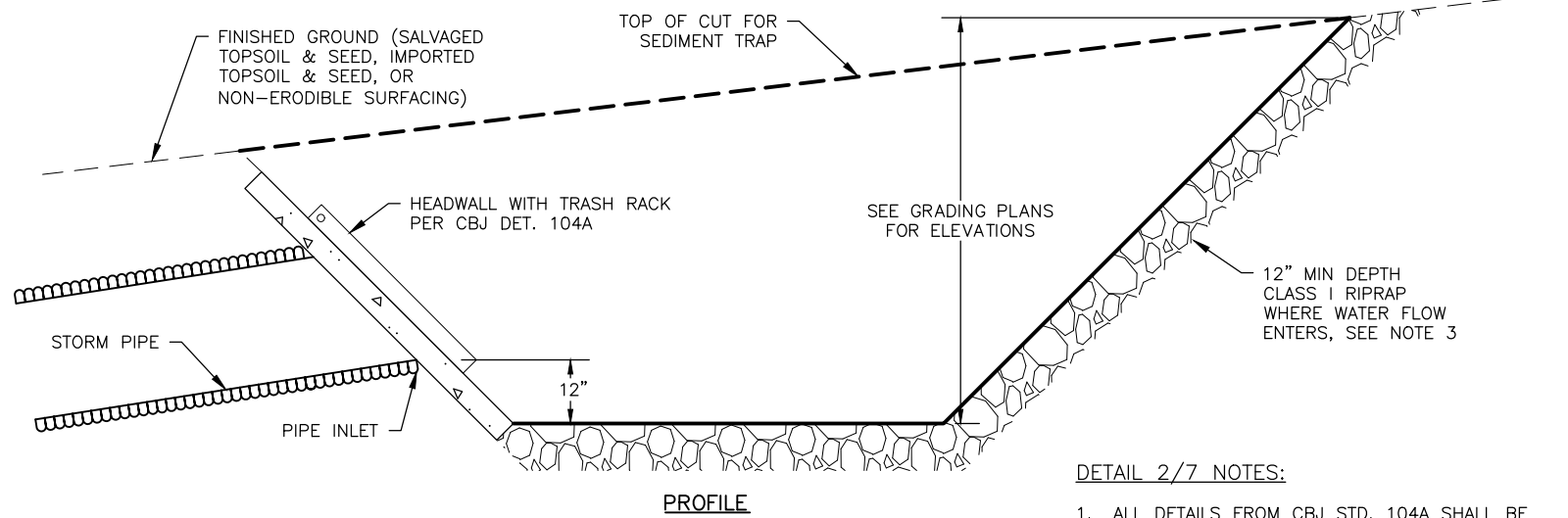
**3**  
**7**

**6-INCH CPP UNDERDRAIN**

SCALE: NOT TO SCALE

**DETAIL 3/7 NOTES:**

1. OUTFALL CONNECTIONS WILL BE INTO CATCH BASINS.
2. BOTH ENDS OF PIPES SHALL BE CONNECTED IN STORM DRAIN STRUCTURES OR CAPPED, SEE PLANS. FILTER CLOTH SHALL BE FOLDED AND OVERLAPPED TO SEAL END OF DRAIN ROCK SECTION.
3. PROVIDE KNOCK OUTS IN STORM DRAIN STRUCTURES LARGE ENOUGH TO ACCOMMODATE BOTH UNDERDRAIN AND STORM DRAIN PIPE.
4. DEPTH VARIES SEE PLAN OR PROFILE SHEETS.
5. MINIMUM PIPE SLOPE SHALL BE 1.00%.
6. TRENCH WIDTH SHALL BE 3'-2" WIDE AT 18" STORM PIPE CROSSINGS AND 1'-6" WIDE WHEN NO STORM DRAIN PIPE IS PRESENT.
7. UNDERDRAIN NOT REQUIRED IF REMOVAL OF BEDROCK IS REQUIRED FOR UNDERDRAIN INSTALLATION.



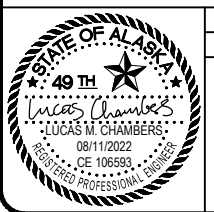
**2**  
**7**

**PIPE INLET SEDIMENT BASIN**

SCALE: NOT TO SCALE

**DETAIL 2/7 NOTES:**

1. ALL DETAILS FROM CBJ STD. 104A SHALL BE FOLLOWED, EXCEPT WHERE MODIFIED BY THIS DETAIL.
2. ALL SIDESLOPES (INCLUDING HEADWALL) SHALL BE SLOPED AT 1H:1V OR FLATTER.
3. ALL SEDIMENT TRAP SIDESLOPES SHALL BE SURFACED WITH 6-INCH MINUS SHOT ROCK.



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**CBJ REVIEW**

APPROVED: \_\_\_\_\_

DATE: \_\_\_\_\_

**CHILKAT VISTAS SUBDIVISION, PHASE II**

MICHAEL & WILLIAM HEUMANN

**DETAILS - SEDIMENT TRAP**

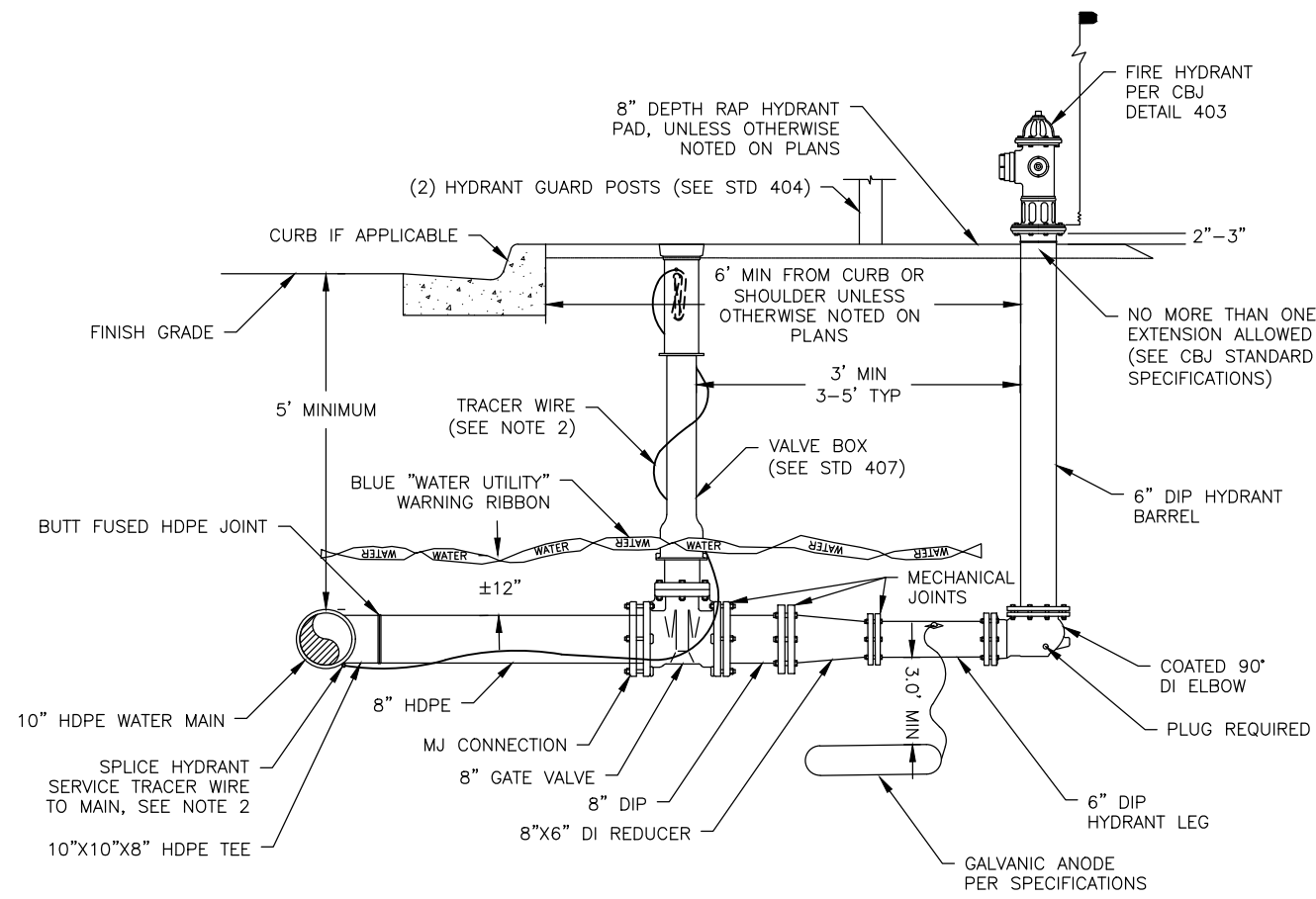
SHEET NUMBER

**C-7**

OF

**22**

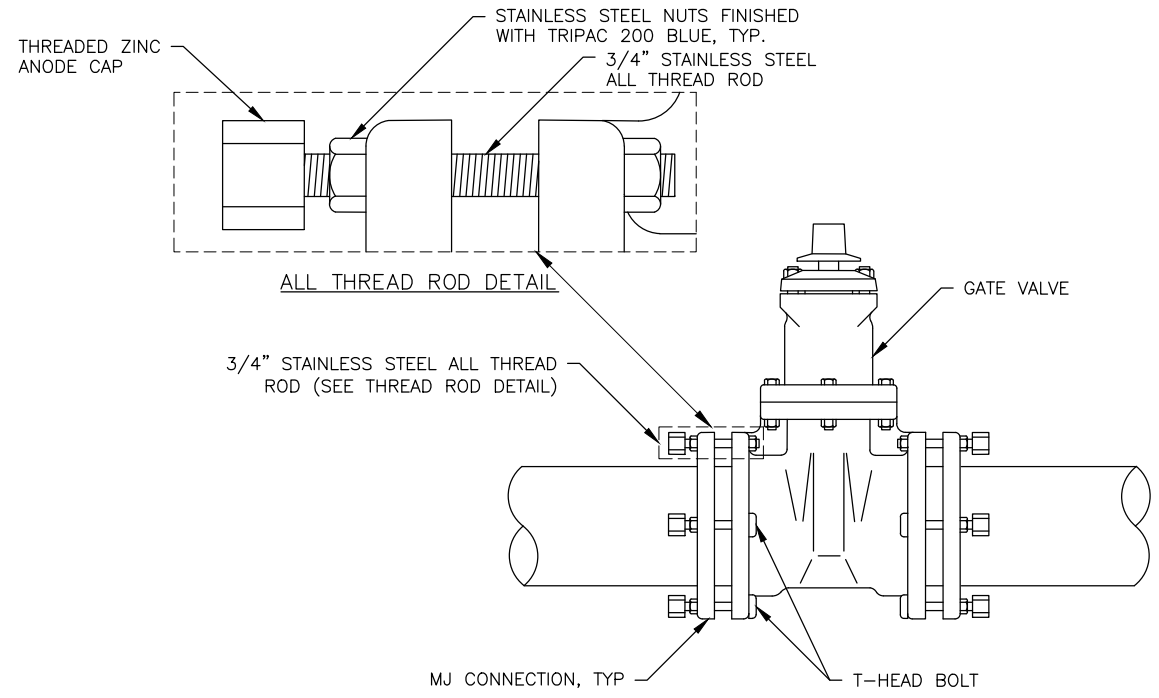




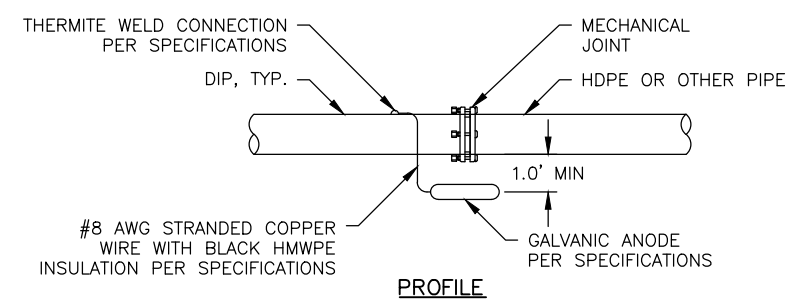
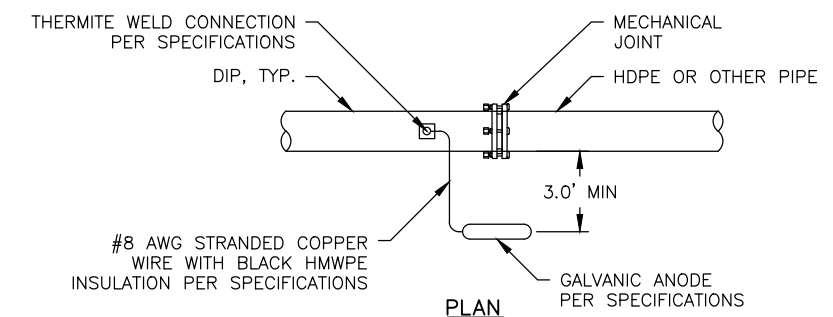
**1 MODIFIED FIRE HYDRANT ASSEMBLY DETAIL**  
SCALE: NOT TO SCALE

**DETAIL 1/10 NOTES:**

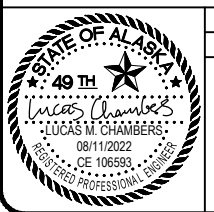
1. TRACER WIRE SHALL BE NO.10 AWG HIGH-STRENGTH COPPER CLAD STEEL WITH BLUE HDPE INSULATION JACKET. MAIN LINE TRACER WIRE SHALL NOT BE SPLICED AND SHALL BE CONTINUOUS BETWEEN VALVE BOXES. SERVICE AND HYDRANT LEGS SHALL USE WATERPROOF DIRECT BURY SPLICE CONNECTION LUGS. TRACER WIRE SHALL BE CONNECTED 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.
2. HYDRANT LEG TRACER SPLICE CONNECTION INTO THE MAIN TRACE WIRE ARE TO BE CONSTRUCTED USING DRYCONN WATERPROOF DIRECT BURY LUGS AS MANUFACTURED BY KING INNOVATION OR APPROVED EQUAL.
3. HYDRANT BARREL AND VALVE BOX SHALL BE PLUMB.
4. GROUND COVER SHALL BE 5' MINIMUM. ADDITIONAL COVER (MORE THAN 5') MAY BE REQUIRED BY THE ENGINEER.
5. ALL HYDRANTS SHALL BE PAINTED CATEPILLAR YELLOW, AND THE NUMBER OF FEET TO THE VALVE SHALL BE PRINTED IN BLACK 1/2" 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.
6. 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.



**2 VALVE BOLT CONNECTION DETAIL**  
SCALE: NOT TO SCALE



**3 GALVANIC ANODE INSTALLATION FOR PIPE MATERIAL TRANSITION DETAIL**  
SCALE: NOT TO SCALE



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APPROVED: \_\_\_\_\_  
DATE: \_\_\_\_\_

**CHILKAT VISTAS SUBDIVISION, PHASE II**  
MICHAEL & WILLIAM HEUMANN

**DETAILS - WATER**

SHEET NUMBER  
**C-8**  
OF  
**22**

**WATER SERVICE SUMMARY**

Lot #	STATION & OFFSET	SIZE/TYPER/NOTES
Lot 15	HILL. STA: 5+08.43, OFF: 26.50 RT	1" SDR7 POLY
Lot 16	HILL. STA: 5+52.59, OFF: 26.50 RT	1" SDR7 POLY
Lot 17	HILL. STA: 5+85.31, OFF: 26.50 RT	1" SDR7 POLY
Lot 18	HILL. STA: 5+10.25, OFF: 19.50 LT	1" SDR7 POLY
Lot 19	HILL. STA: 5+85.71, OFF: 19.50 LT	1" SDR7 POLY
Lot 19	HILL. STA: 5+58.33, OFF: 19.50 LT	REMOVE CORP, PLUG MAIN WITH BRASS PLUG AT
Lot 20	HILL. STA: 6+94.85, OFF: 19.50 LT	1" SDR7 POLY
Lot 21	HOOT. STA: 18+37.90, OFF: 23.00 RT	1" SDR7 POLY
Lot 22	HOOT. STA: 18+03.90, OFF: 23.00 RT	1" SDR7 POLY
Lot 23	HOOT. STA: 17+66.22, OFF: 23.00 RT	1" SDR7 POLY
Lot 24	HOOT. STA: 17+34.74, OFF: 22.34 RT	1" SDR7 POLY
Lot 25	HILL. STA: 7+73.87, OFF: 26.50 RT	1" SDR7 POLY
Lot 26	HILL. STA: 7+20.25, OFF: 26.50 RT	1" SDR7 POLY
Lot 27	HILL. STA: 6+86.28, OFF: 26.50 RT	1" SDR7 POLY
4825 GLACIER HWY TRACT-A3	HOOT. STA: 14+51.52, OFF: 28.00 RT	1" SDR7 POLY
	HOOT. STA: 16+98.92, OFF: 21.13 RT	10" HDPE

NOTES:  
 1: 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. SERVICES 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.  
 2: SPLICE TRACER WIRE TO MAIN WITH DRYCONN WATERPROOF DIRECT BURY LUGS.  
 3: ATTACH TRACER WIRE TO SERVICE EVERY 5 FEET.  
 4: INSULATE WATER SERVICES PER STD 412 AT STORM DRAIN OR DITCH CROSSINGS WHERE 5 FEET OF COVER/SEPARATION CANNOT BE OBTAINED.

**SEWER SERVICE SUMMARY**

LOT#	STATION & OFFSET	SIZE/TYPER
Lot 15	HILL.: STA: 5+03.43, OFF: 26.50 RT	4" SDR 35 PVC
Lot 16	HILL. STA: 5+47.62, OFF: 26.50 RT	4" SDR 35 PVC
Lot 17	HILL. STA: 5+90.33, OFF: 26.50 RT	4" SDR 35 PVC
Lot 18	HILL. STA: 5+15.25, OFF: 19.50 LT	4" SDR 35 PVC
Lot 19	HILL. STA: 5+90.71, OFF: 19.50 LT	4" SDR 35 PVC
Lot 19	HILL. STA: 5+53.33, OFF: 19.50 LT	REMOVE EXTRA SERVICE
Lot 20	HILL. STA: 6+96.85, OFF: 19.50 LT	4" SDR 35 PVC
Lot 21	HOOT. STA: 18+35.90, OFF: 23.00 RT	4" SDR 35 PVC
Lot 22	HOOT. STA: 18+01.90, OFF: 23.00 RT	4" SDR 35 PVC
Lot 23	HOOT. STA: 17+64.22, OFF: 23.00 RT	4" SDR 35 PVC
Lot 24	HOOT. STA: 17+33.29, OFF: 22.23 RT	4" SDR 35 PVC
Lot 25	HILL. STA: 7+75.87, OFF: 26.50 RT	4" SDR 35 PVC
Lot 26	HILL. STA: 7+22.26, OFF: 26.50 RT	4" SDR 35 PVC
Lot 27	HILL. STA: 6+88.26, OFF: 26.50 RT	4" SDR 35 PVC
TRACT-A3	HOOT. STA: 17+10.28, OFF: 22.11 RT	8" SDR 35 PVC

NOTES:  
 1: ADJUST SEWER SERVICE SLOPES TO PROVIDE MAXIMUM SEPARATION UTILITY CROSSINGS. INSTALL SWEEPS AS REQUIRED UPON APPROVAL OF THE ENGINEER.  
 2: CONSTRUCT NEW 6" PVC SEWER SERVICE AND INSTALL NEW CLEANOUT NEAR PROPERTY LINE PER CBJ STANDARD DETAIL 213 AND CONNECT TO EXISTING SEWER SERVICE.  
 3: SEWER SERVICE CLEAN-OUTS TO HAVE METAL COVERS.

**SIGN ASSEMBLY SUMMARY**

SIGN NO.	STATION & OFFSET	MUTCD DESIGNATION	DIMENSIONS LxH (IN)	LEGEND & REMARKS
1	HOOTER STA: 11+55.10, OFF: 21.67 LT	R1-1, D3-1	36x36, Lx6	"STOP" SIGN W/ "HOOTER LN" STREET SIGN ABOVE
2	HOOTER STA: 18+63.78, OFF: 30.19 RT	(2) D3-1	Lx6	"HILLCREST AVE" & "HOOTER LN" STREET SIGNS
3	HOOTER STA: 19+43.28, OFF: 4.73 LT	MODIFIED W14-1, OM4-1	36x36, 18x18	"END" YELLOW DIAMOND WARNING SIGN W/ OBJECT MARKER SIGN BELOW
4	HILLCREST STA: 6+21.04, OFF 53.13 RT	MODIFIED W14-1, OM4-1	36x36, 18x18	"END" YELLOW DIAMOND WARNING SIGN W/ OBJECT MARKER SIGN BELOW
5	HOOTER STA: 15+02.41, OFF: 20.00 LT	R7-1 (LT/RT)	12x18	"NO PARKING ANY TIME" SIGN
6	HOOTER STA: 17+97.13, OFF: 20.00 LT	R7-1 (LT/RT)	12x18	"NO PARKING ANY TIME" SIGN
7	HILLCREST STA: 7+04.82, OFF 19.50 LT	R7-1 (LT/RT)	12x18	"NO PARKING ANY TIME" SIGN
8	HILLCREST STA: 4+95.50, OFF 19.50 LT	R7-1 (LT/RT)	12x18	"NO PARKING ANY TIME" SIGN
9	HOOTER STA: 17+85.54, OFF: 23.00 RT	MODIFIED R7-1 (LT/RT)	12x18	"NO PARKING NOVEMBER TO APRIL" SIGN
10	HILLCREST STA: 7+38.20, OFF 26.50 RT	MODIFIED R7-1 (LT/RT)	12x18	"NO PARKING NOVEMBER TO APRIL" SIGN
11	HILLCREST STA: 5+26.49, OFF 27.50 RT	MODIFIED R7-1 (LT/RT)	12x18	"NO PARKING NOVEMBER TO APRIL" SIGN

NOTE: INSTALL SIGNS PER CBJ STD DWG 127A SIGN ASSEMBLY SINGLE-POST.

**STORM DRAIN FRAME & GRATE SUMMARY**

STRUCTURE NO.	EAST JORDAN, OLYMPIC FOUNDRY CO., NEENAH FOUNDRY, CBJ STANDARD NO., OR APPROVED EQUAL
S-1	OFCO SM52VG *AKDOT STD D-22.01
S-2	OFCO SM52VG
S-3	OFCO SM52VG
S-4	OFCO SM52VG
S-5	OFCO SM52VG
S-6	OFCO SM52VG
S-7	OFCO MH34SCDI & SLOTTED COVER
S-8	OFCO MH34SCDI & SLOTTED COVER
S-9	OFCO MH34SCDI & SLOTTED COVER
S-10	OFCO SM52VG
S-11	OFCO SM52VG
S-12	OFCO MH34SCDI & SLOTTED COVER
S-13	OFCO MH34SCDI & SLOTTED COVER
S-14	OFCO MH34SCDI & SLOTTED COVER
S-15	OFCO SM52VG
S-16	OFCO MH34SCDI & SLOTTED COVER
S-17	OFCO MH34SCDI & SLOTTED COVER
S-18	OFCO MH34SCDI & SLOTTED COVER

NOTE: INSTALL MANHOLES WITH CONCENTRIC SLAB OR CONE & DO NOT INSTALL LADDER.

**STORM DRAIN LATERAL SUMMARY**

LOT#	STATION & OFFSET	SIZE/TYPER
Lot 15	HILL.: STA: 5-24.77, OFF: 26.50 RT	6" SDR 35 PVC
Lot 16	HILL. STA: 5+28.69, OFF: 26.50 RT	6" SDR 35 PVC
Lot 17	HILL. STA: 6+05.77, OFF: 33.12 RT	6" SDR 35 PVC
Lot 21	HOOT. STA: 18+42.18, OFF: 24.00 RT	6" SDR 35 PVC
Lot 22	HOOT. STA: 17+82.90, OFF: 24.00 RT	6" SDR 35 PVC
Lot 23	HOOT. STA: 17+70.34, OFF: 24.00 RT	6" SDR 35 PVC
Lot 24	HOOT. STA: 17+26.61, OFF: 22.82 RT	6" SDR 35 PVC
Lot 25	HILL. STA: 7+67.37, OFF: 26.50 RT	6" SDR 35 PVC
Lot 26	HILL. STA: 7+34.77, OFF: 26.50 RT	6" SDR 35 PVC
Lot 27	HILL. STA: 6+71.76, OFF: 26.50 RT	6" SDR 35 PVC

NOTES:  
 1: STORM DRAIN SERVICE LATERALS SHALL BE INSTALLED PER CBJ SDT 307.  
 2: INVERT ELEVATION OF LATERAL IN STRUCTURES SHALL BE SET 0.1' FEET HIGHER THAN THE OUTLET PIPE INVERT ELEVATION.

**GALVANIC ANODE SUMMARY**

INSTALLED ON	STATION & OFFSET
EX 8-INCH DIP WATER MAIN	HOOT. STA: 12+79.27, OFF: 0.75 LT
NEW FIRE HYDRANT LEG	HOOT. STA: 16+88.68, OFF: 20.14 RT
NEW FIRE HYDRANT LEG	HILL. STA: 6+81.75, OFF: 23.50 RT

**MAINLINE VALVES**

SIZE/TYPER	STATION & OFFSET
10" GATE VALVE	HOOTER: STA: 15+55.00, OFF: 1.00 LT
10" GATE VALVE	HOOTER: STA: 19+10.11, OFF: 1.00 LT
10" GATE VALVE	HOOTER: STA: 19+05.18, OFF: 2.90 RT
10" GATE VALVE	HILLCREST: STA: 6+36.30, OFF: 20.18 RT
10" GATE VALVE	HILLCREST: STA: 6+52.56, OFF: 6.30 RT
10" GATE VALVE	HILLCREST: STA: 4+96.00, OFF: 6.61 RT

**HDPE PIPE FITTINGS**

FITTING TYPE	STATION & OFFSET
10"x10"x8" HDPE TEE	HOOT. STA: 16+88.03, OFF: 1.00 LT
10"x10"x10" HDPE TEE	HOOT. STA: 16+98.40, OFF: 1.00 LT
10"x10"x10" HDPE TEE	HOOT. STA: 19+05.69, OFF: 1.00 LT
10"x10"x8" HDPE TEE	HILL. STA: 6+81.75, OFF: 6.98 RT
10" 45 DEGREE HDPE FITTING	HILL. STA: 6+44.50, OFF: 6.98 RT
10"x10"x10" HDPE TEE	HILL. STA: 6+37.92, OFF: 16.54 RT

NOTE: ONLY HORIZONTAL FITTINGS SHOWN IN TABLE. ADDITIONAL HORIZONTAL AND/OR VERTICAL FITTINGS MAY BE REQUIRED. CONTRACTOR TO VERIFY AND PROVIDE ALL NECESSARY FITTINGS.



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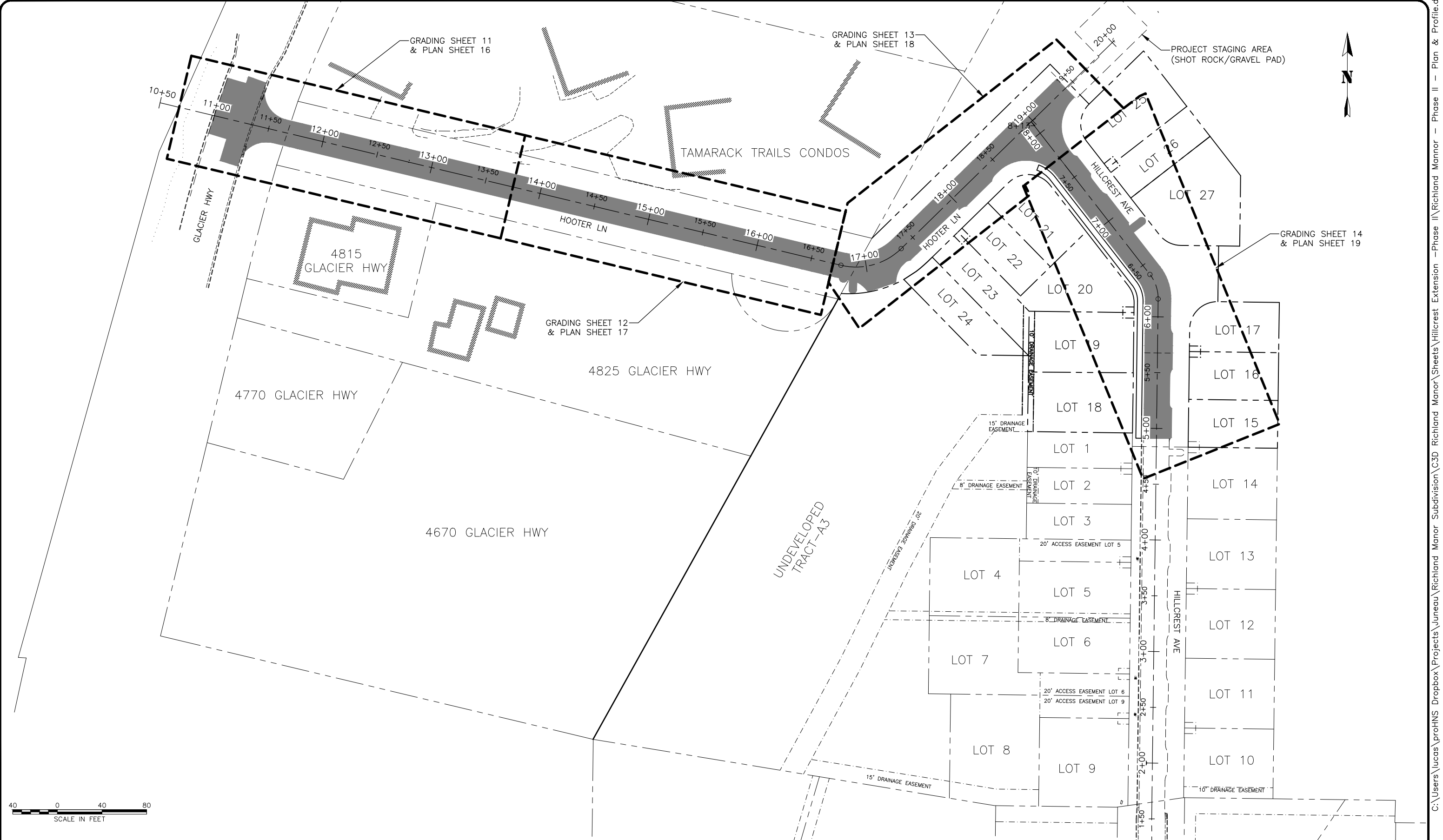
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**CHILKAT VISTAS  
 SUBDIVISION, PHASE II**  
 MICHAEL & WILLIAM HEUMANN

**SUMMARY TABLES**

SHEET NUMBER  
**C-9**  
 OF  
**22**





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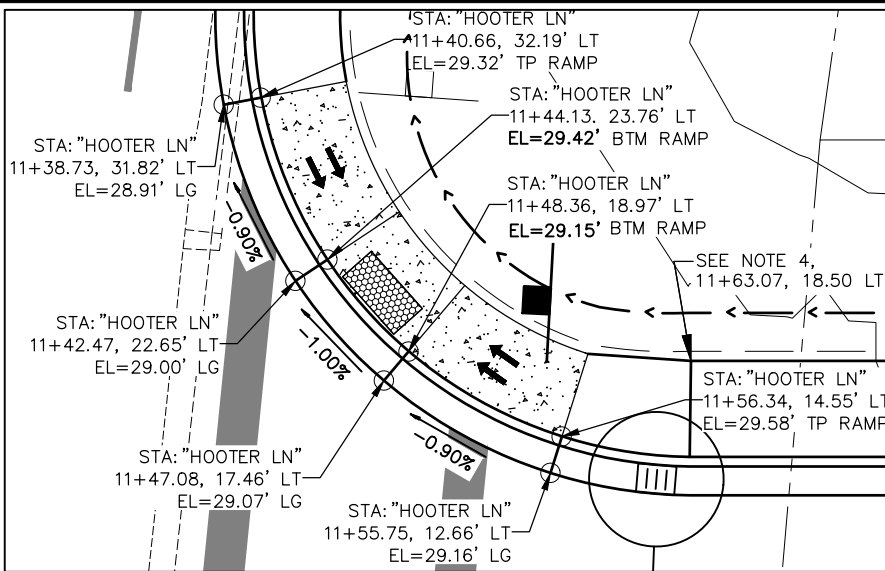
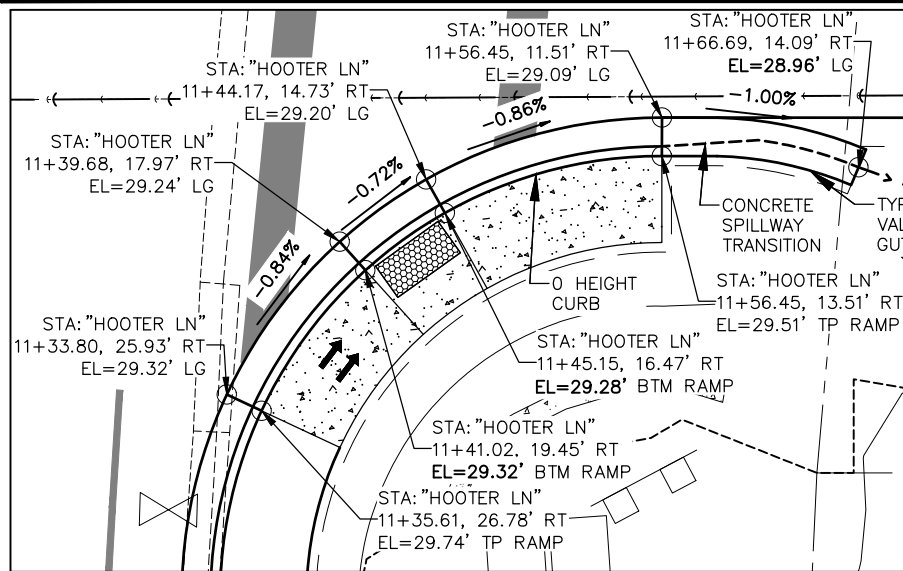
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**CHILKAT VISTAS  
 SUBDIVISION, PHASE II**  
 MICHAEL & WILLIAM HEUMANN

**PLAN OVERVIEW**

SHEET NUMBER  
**C-10**  
 OF  
**22**

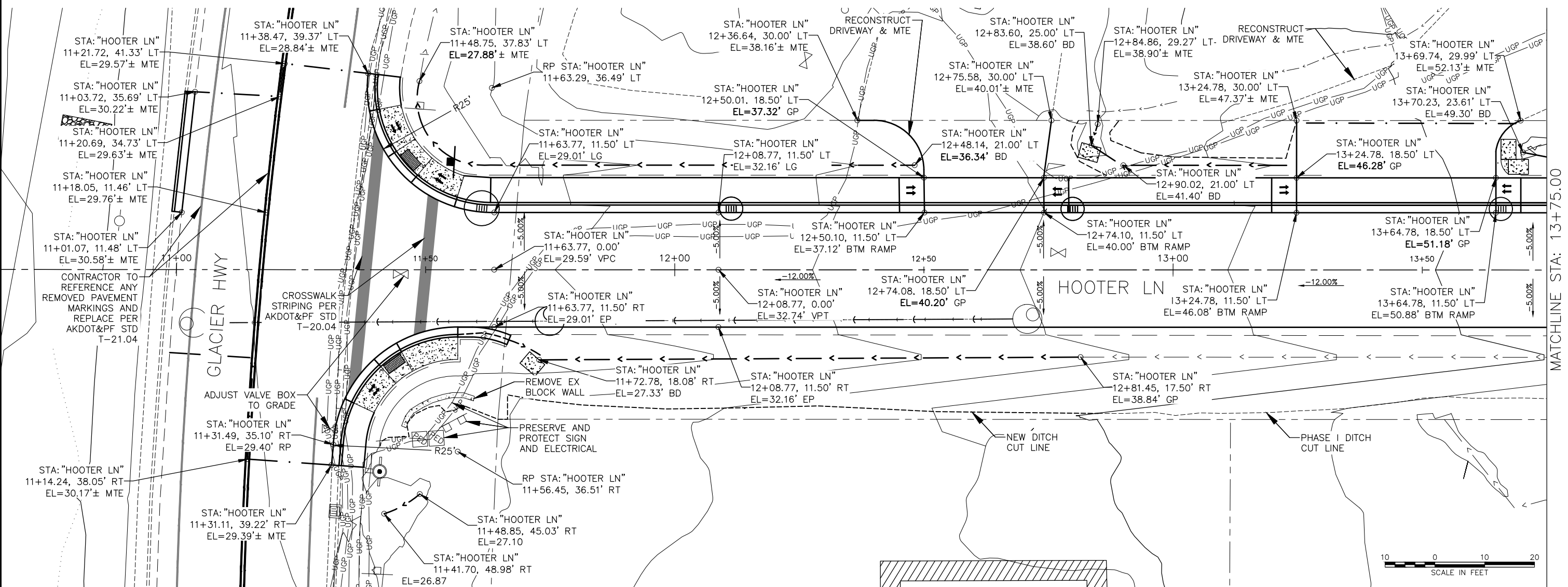
Attachment D - Approved Construction Plan



- ADA RAMP NOTES:**
1. AFTER PLACING THE FORMWORK, AND BEFORE PLACING CONCRETE, THE CONTRACTOR SHALL FIELD VERIFY THAT THE MAXIMUM SLOPES INDICATED IN NOTES 2-3 ARE NOT EXCEEDED. IF ANY SLOPES EXCEED THOSE SPECIFIED IN NOTES 2-3 THE CONTRACTOR SHALL VERIFY THAT THE GRADE POINTS MATCH THE PLANS. IF THIS DOES NOT RESOLVE THE ISSUE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. CONCRETE SHALL NOT BE PLACED IF THE SLOPES EXCEED THOSE LISTED IN NOTES 2-3.
  2. ADA LANDING SLOPES MAY NOT EXCEED 2.00% IN ANY DIRECTION.
  3. ADA RAMP RUNNING SLOPES MAY NOT EXCEED 8.33%, AND ADA RAMP CROSS SLOPES SHALL NOT EXCEED 2.00%
  4. 5' ASPHALT SIDEWALK ON HOOTER LANE TRANSITIONS TO 4.5' SIDEWALK ON GLACIER HWY.

**1 SOUTH GLACIER/HOOTER ADA RAMP**  
 11 SCALE: NOT TO SCALE

**2 NORTH GLACIER/HOOTER ADA RAMP**  
 11 SCALE: NOT TO SCALE



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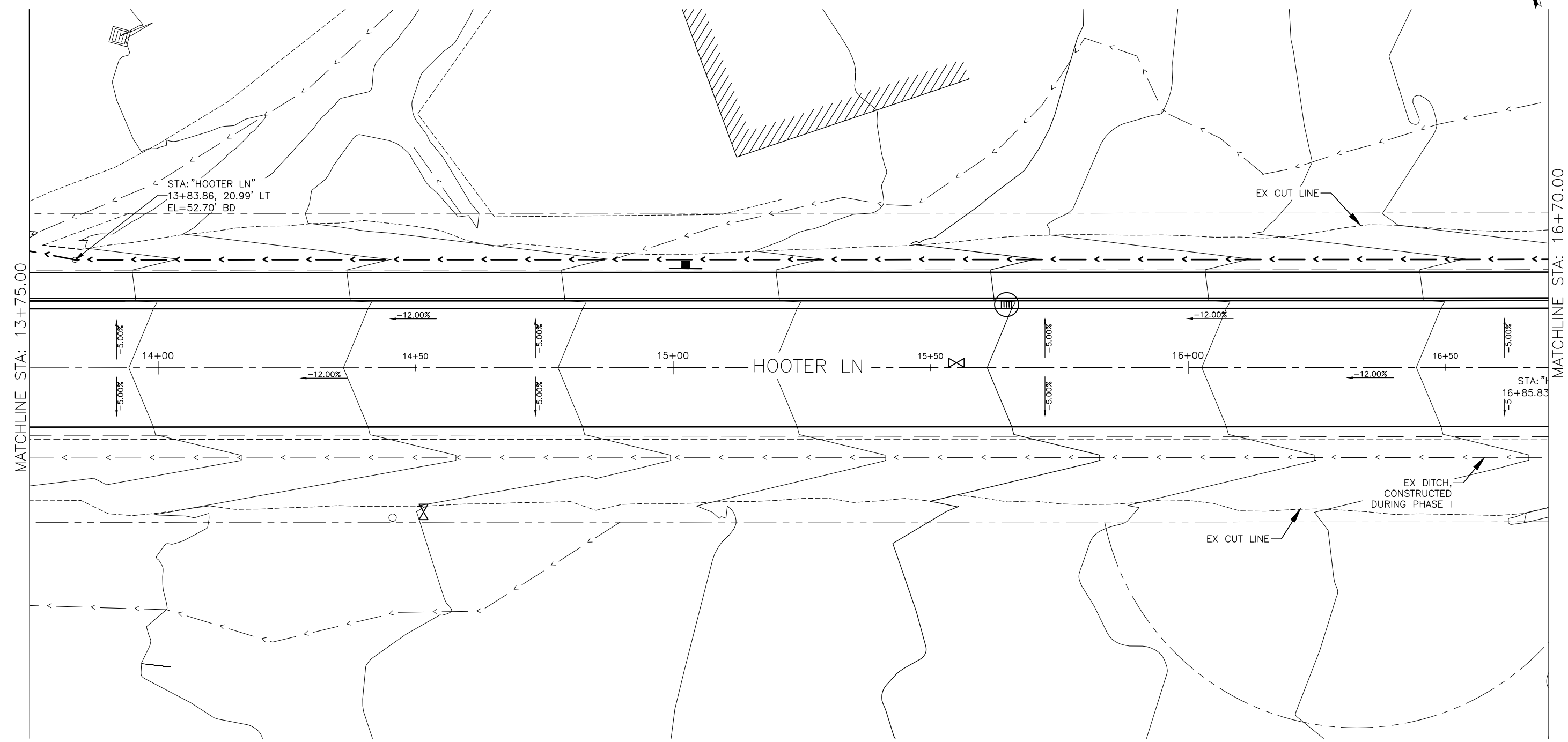
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**CHILKAT VISTAS SUBDIVISION, PHASE II**  
 MICHAEL & WILLIAM HEUMANN

**R.O.W. GRADING PLAN**  
**HOOTER LN 10+80 TO 13+75**

SHEET NUMBER  
**C-11**  
 OF  
**22**





MATCHLINE STA: 13+75.00

MATCHLINE STA: 16+70.00



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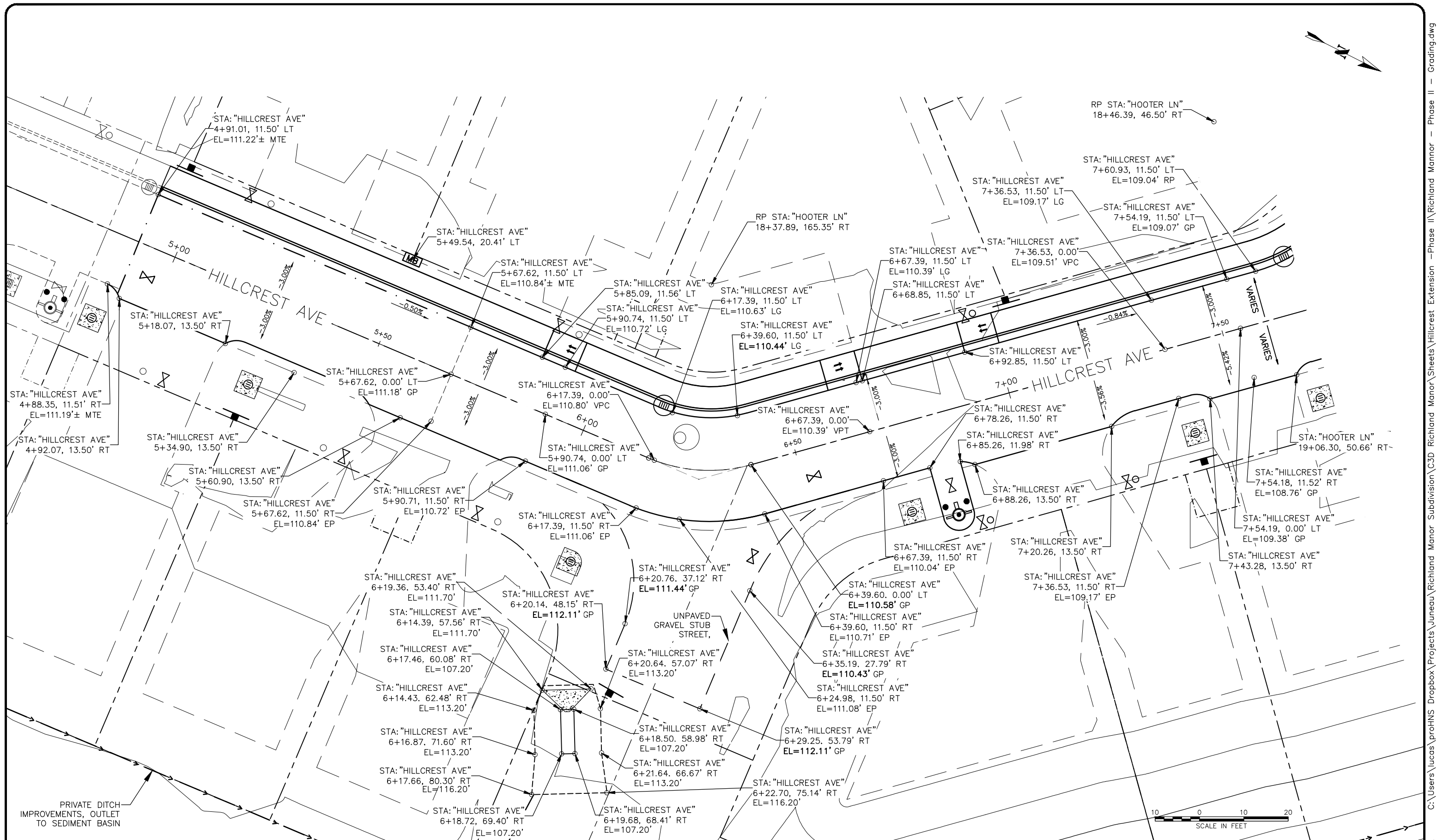
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 SUBDIVISION, PHASE II**  
 MICHAEL & WILLIAM HEUMANN

**R.O.W. GRADING PLAN  
 HOOTER LN 13+75 TO  
 16+70**

SHEET NUMBER  
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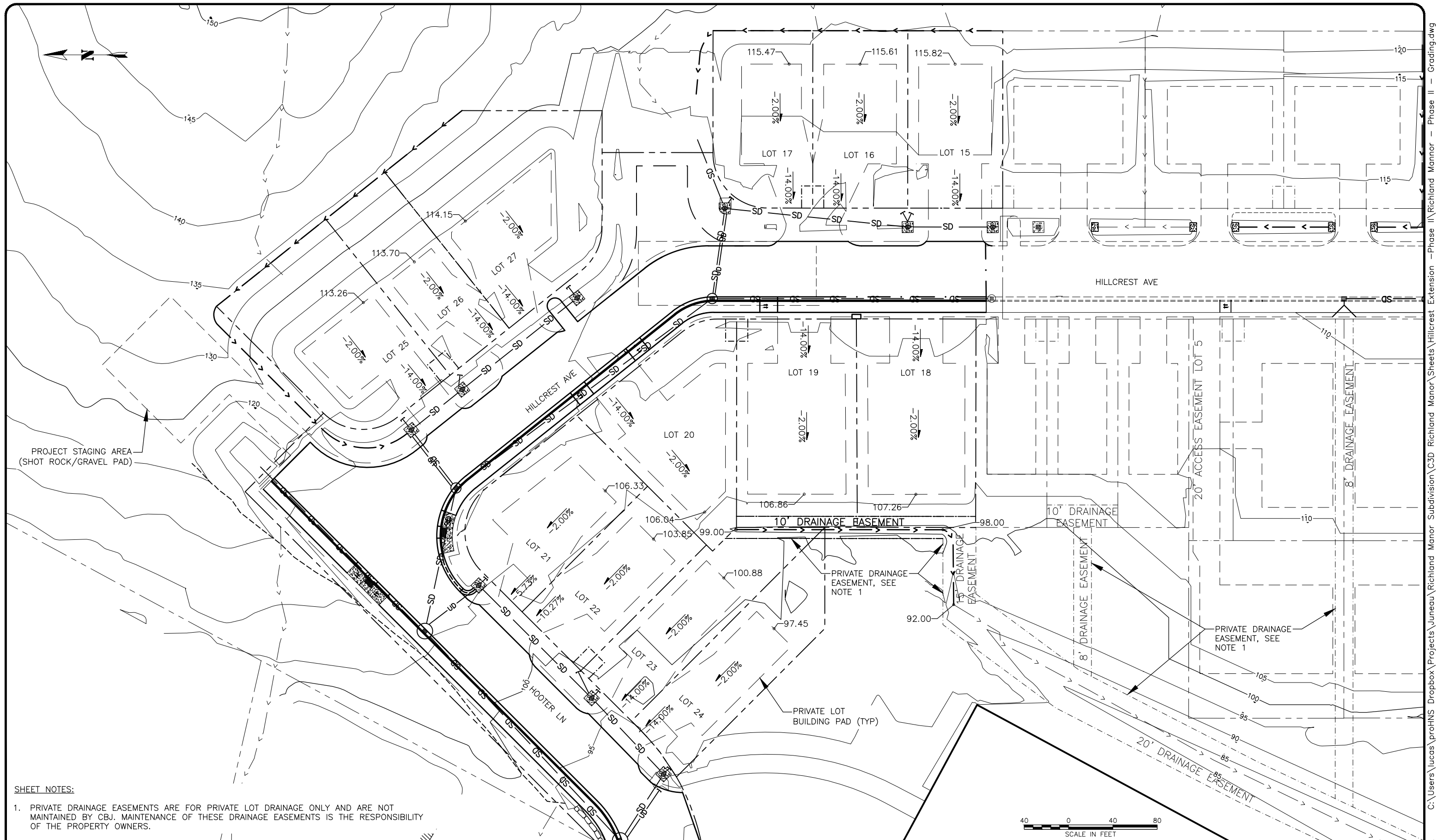
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 MICHAEL & WILLIAM HEUMANN

**R.O.W. GRADING PLAN  
 HILLCREST AVE 5+50 TO  
 8+15**

SHEET NUMBER  
**C-14**  
 OF  
**22**

Attachment D - Approved Construction Plan





**SHEET NOTES:**

1. PRIVATE DRAINAGE EASEMENTS ARE FOR PRIVATE LOT DRAINAGE ONLY AND ARE NOT MAINTAINED BY CBJ. MAINTENANCE OF THESE DRAINAGE EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNERS.

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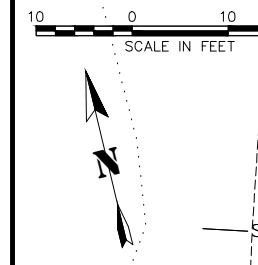
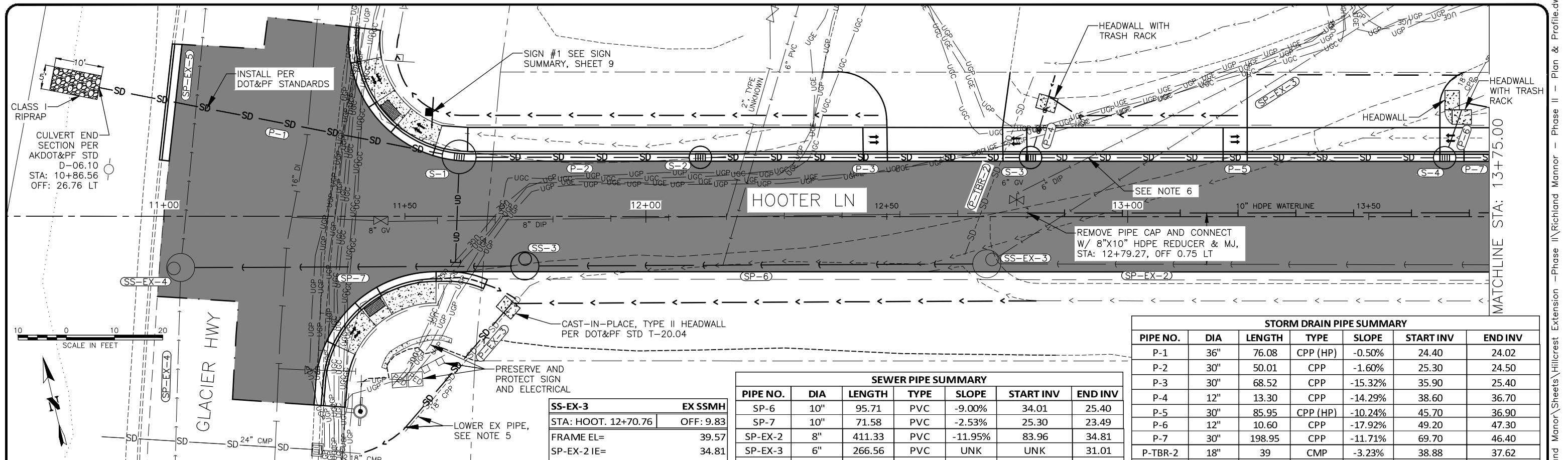
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**CHILKAT VISTAS  
 SUBDIVISION, PHASE II**  
 MICHAEL & WILLIAM HEUMANN

**PRIVATE LOT GRADING  
 PLAN**

SHEET NUMBER  
**C-15**  
 OF  
**22**

Attachment D - Approved Construction Plan



STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-1	36"	76.08	CPP (HP)	-0.50%	24.40	24.02
P-2	30"	50.01	CPP	-1.60%	25.30	24.50
P-3	30"	68.52	CPP	-15.32%	35.90	25.40
P-4	12"	13.30	CPP	-14.29%	38.60	36.70
P-5	30"	85.95	CPP (HP)	-10.24%	45.70	36.90
P-6	12"	10.60	CPP	-17.92%	49.20	47.30
P-7	30"	198.95	CPP	-11.71%	69.70	46.40
P-TBR-2	18"	39	CMP	-3.23%	38.88	37.62
P-EX-3	18"	35	CPP	-0.50%	27.50	27.10

INSTALL & BACKFILL CULVERTS & STORM DRAIN PIPES PER DOT D-01.02 INSIDE DOT ROW

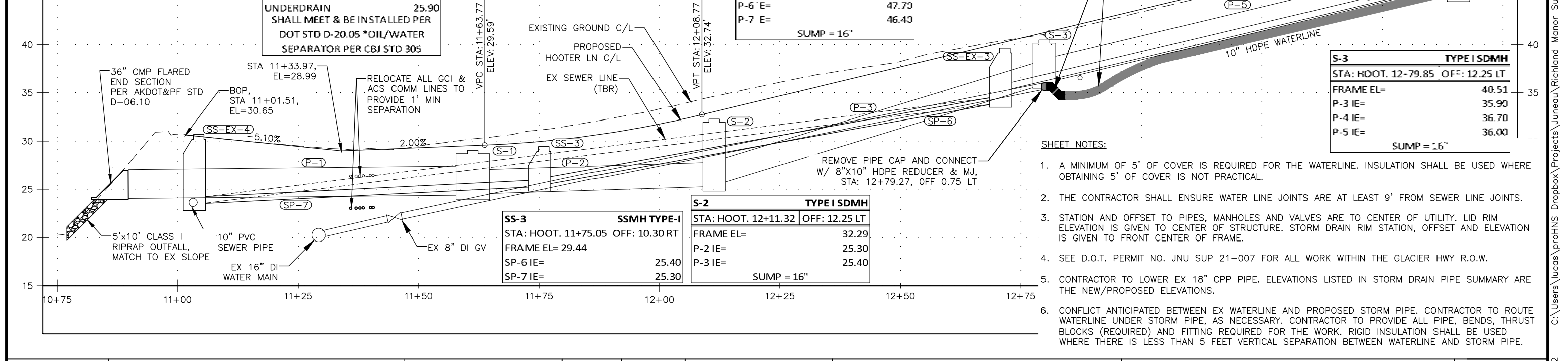
SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-6	10"	95.71	PVC	-9.00%	34.01	25.40
SP-7	10"	71.58	PVC	-2.53%	25.30	23.49
SP-EX-2	8"	411.33	PVC	-11.95%	83.96	34.81
SP-EX-3	6"	266.56	PVC	UNK	UNK	31.01
SP-EX-4	10"	UNK	PVC	UNK	UNK	23.49
SP-EX-5	10"	UNK	PVC	UNK	23.29	UNK

SS-EX-4 EX SSMH		PRECAST CONCRETE S-1	
STA: HOOT. 11+03.48	OFF: 10.66	STA: HOOT. - 11+61.2	OFF: 12.33 LT
FRAME EL=	30.68	FRAME EL=	29.03
SP-EX-3 IE=	23.49	P-1 IE=	24.40
SP-EX-5 IE=	23.49	P-2 IE=	24.50
SP-EX-6 IE=	23.29	UNDERDRAIN	25.90

SS-EX-3 EX SSMH	
STA: HOOT. 12+70.76	OFF: 9.83
FRAME EL=	39.57
SP-EX-2 IE=	34.81
SP-EX-3 IE=	31.01
SP-EX-4 IE=	31.01

S-4 TYPE I SDMH	
STA: HOOT. 13+99.51	OFF: 12.25 LT
FRAME E.=	50.82
P-5 E=	46.30
P-6 E=	47.70
P-7 E=	46.40

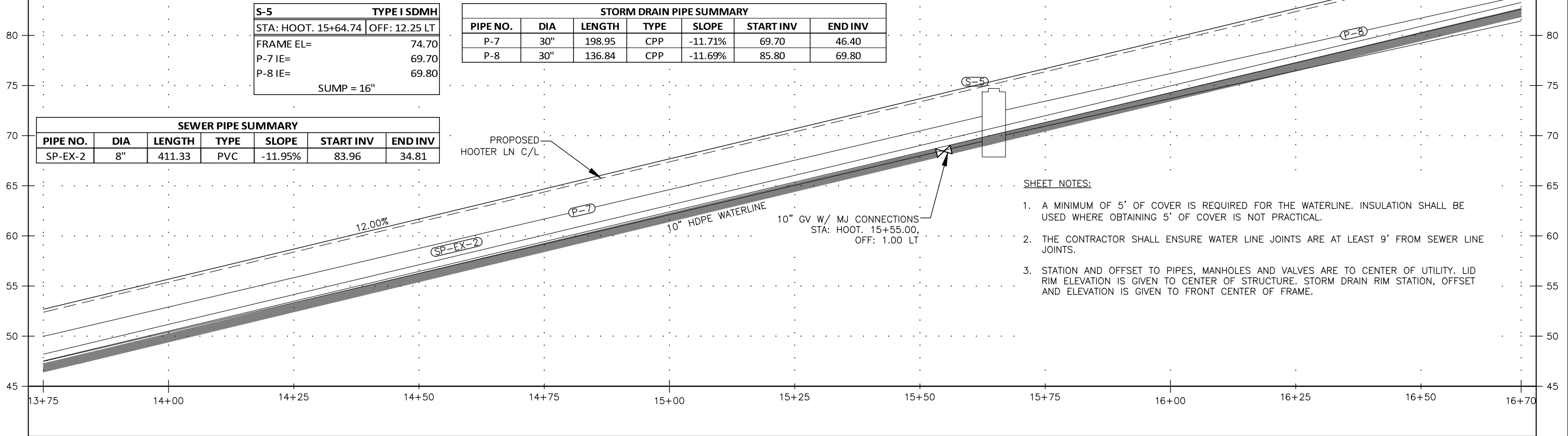
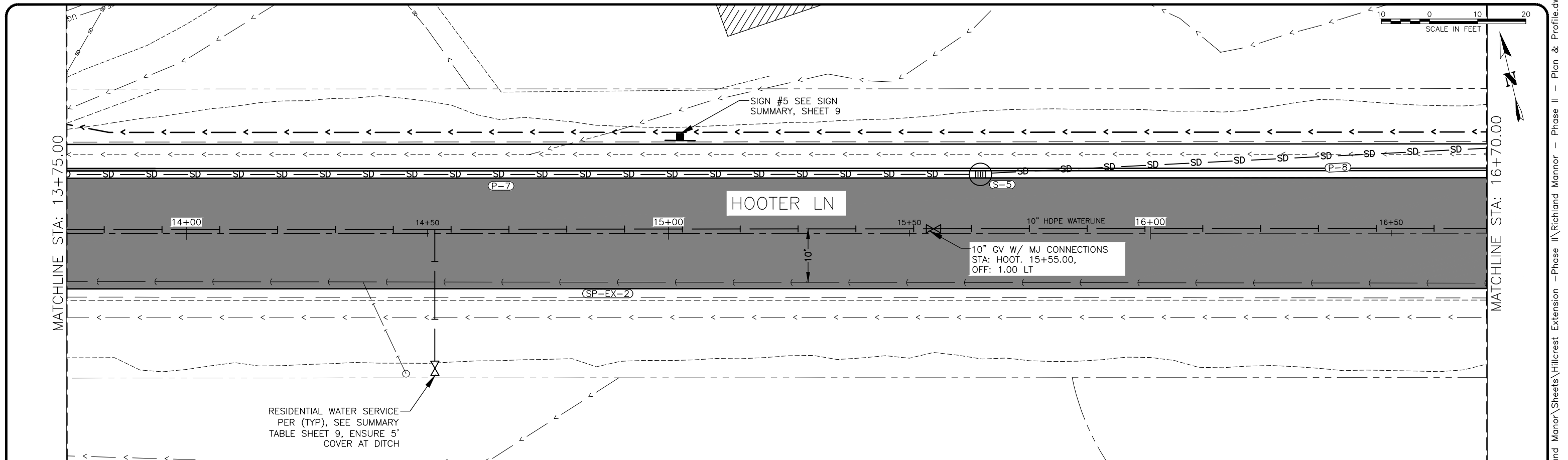
SUMP = 16"



- SHEET NOTES:**
- A MINIMUM OF 5' OF COVER IS REQUIRED FOR THE WATERLINE. INSULATION SHALL BE USED WHERE OBTAINING 5' OF COVER IS NOT PRACTICAL.
  - THE CONTRACTOR SHALL ENSURE WATER LINE JOINTS ARE AT LEAST 9' FROM SEWER LINE JOINTS.
  - STATION AND OFFSET TO PIPES, MANHOLES AND VALVES ARE TO CENTER OF UTILITY. LID RIM ELEVATION IS GIVEN TO CENTER OF STRUCTURE. STORM DRAIN RIM STATION, OFFSET AND ELEVATION IS GIVEN TO FRONT CENTER OF FRAME.
  - SEE D.O.T. PERMIT NO. JNU SUP 21-007 FOR ALL WORK WITHIN THE GLACIER HWY R.O.W.
  - CONTRACTOR TO LOWER EX 18" CPP PIPE. ELEVATIONS LISTED IN STORM DRAIN PIPE SUMMARY ARE THE NEW/PROPOSED ELEVATIONS.
  - CONFLICT ANTICIPATED BETWEEN EX WATERLINE AND PROPOSED STORM PIPE. CONTRACTOR TO ROUTE WATERLINE UNDER STORM PIPE, AS NECESSARY. CONTRACTOR TO PROVIDE ALL PIPE, BENDS, THRUST BLOCKS (REQUIRED) AND FITTING REQUIRED FOR THE WORK. RIGID INSULATION SHALL BE USED WHERE THERE IS LESS THAN 5 FEET VERTICAL SEPARATION BETWEEN WATERLINE AND STORM PIPE.

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	No.	DATE	DESCRIPTION						BY
									OF
									22

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S-5		TYPE I SDM H	
STA: HOOT. 15+64.74	OFF: 12.25 LT		
FRAME EL=	74.70		
P-7 IE=	69.70		
P-8 IE=	69.80		
SUMP = 16"			

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-7	30"	198.95	CPP	-11.71%	69.70	46.40
P-8	30"	136.84	CPP	-11.69%	85.80	69.80

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-EX-2	8"	411.33	PVC	-11.95%	83.96	34.81



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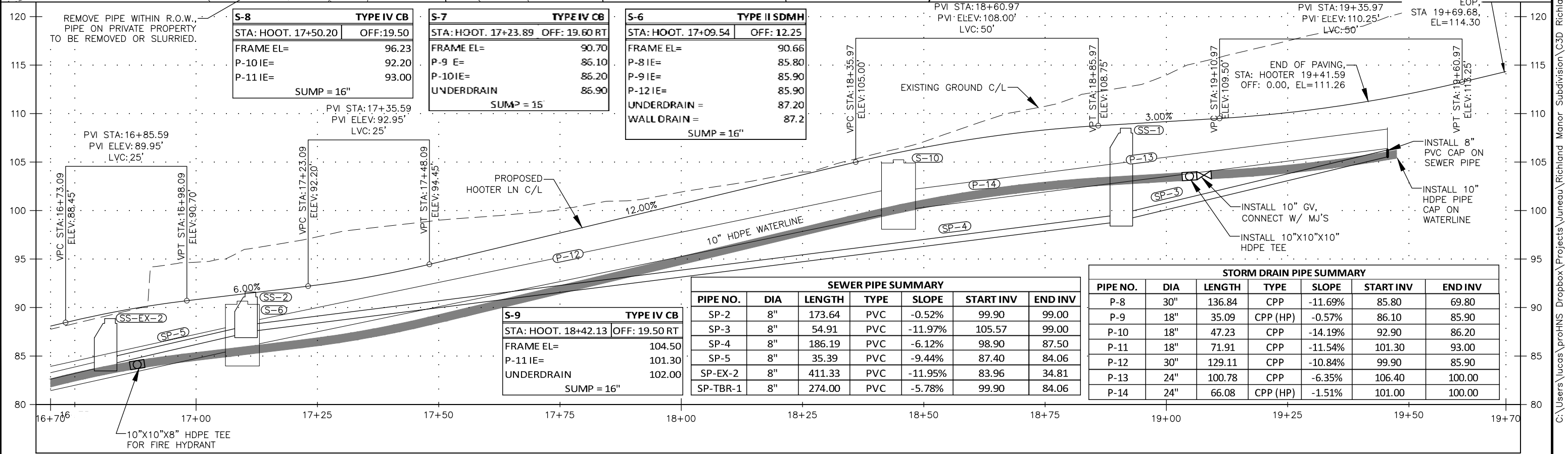
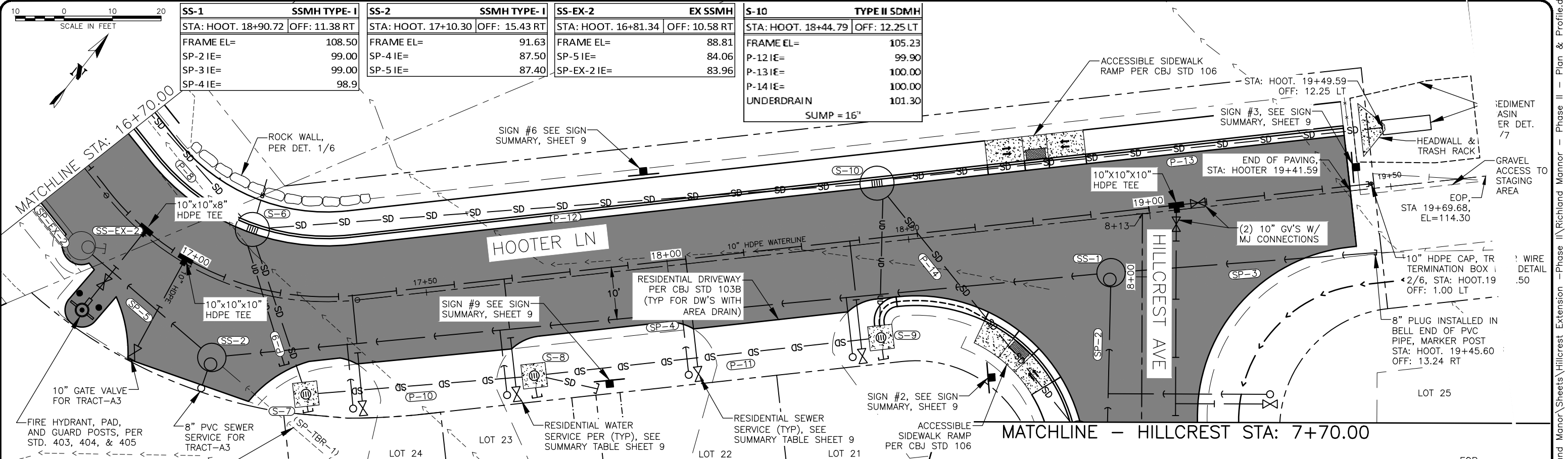
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 SUBDIVISION, PHASE II**

MICHAEL & WILLIAM HEUMANN

**R.O.W. PLAN & PROFILE  
 HOOTER LN 13+75 TO  
 16+70**

SHEET NUMBER  
**C-17**  
 OF  
**22**





SS-1	SSMH TYPE-I	SS-2	SSMH TYPE-I	SS-EX-2	EX SSMH	S-10	TYPE II SDMH
STA: HOOT. 18+90.72	OFF: 11.38 RT	STA: HOOT. 17+10.30	OFF: 15.43 RT	STA: HOOT. 16+81.34	OFF: 10.58 RT	STA: HOOT. 18+44.79	OFF: 12.25 LT
FRAME EL=	108.50	FRAME EL=	91.63	FRAME EL=	88.81	FRAME EL=	105.23
SP-2 IE=	99.00	SP-4 IE=	87.50	SP-5 IE=	84.06	P-12 IE=	99.90
SP-3 IE=	99.00	SP-5 IE=	87.40	SP-EX-2 IE=	83.96	P-13 IE=	100.00
SP-4 IE=	98.9					P-14 IE=	100.00
						UNDERDRAIN	101.30
							SUMP = 16"

S-8	TYPE IV CB	S-7	TYPE IV CB	S-6	TYPE II SDMH
STA: HOOT. 17+50.20	OFF: 19.50	STA: HOOT. 17+23.89	OFF: 19.60 RT	STA: HOOT. 17+09.54	OFF: 12.25
FRAME EL=	96.23	FRAME EL=	90.70	FRAME EL=	90.66
P-10 IE=	92.20	P-9 IE=	85.10	P-8 IE=	85.80
P-11 IE=	93.00	P-10 IE=	85.20	P-9 IE=	85.90
	SUMP = 16"	UNDERDRAIN	85.90	P-12 IE=	85.90
			SUMP = 15"	UNDERDRAIN =	87.20
				WALL DRAIN =	87.2
					SUMP = 16"

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-2	8"	173.64	PVC	-0.52%	99.90	99.00
SP-3	8"	54.91	PVC	-11.97%	105.57	99.00
SP-4	8"	186.19	PVC	-6.12%	98.90	87.50
SP-5	8"	35.39	PVC	-9.44%	87.40	84.06
SP-EX-2	8"	411.33	PVC	-11.95%	83.96	34.81
SP-TBR-1	8"	274.00	PVC	-5.78%	99.90	84.06

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-8	30"	136.84	CPP	-11.69%	85.80	69.80
P-9	18"	35.09	CPP (HP)	-0.57%	86.10	85.90
P-10	18"	47.23	CPP	-14.19%	92.90	86.20
P-11	18"	71.91	CPP	-11.54%	101.30	93.00
P-12	30"	129.11	CPP	-10.84%	99.90	85.90
P-13	24"	100.78	CPP	-6.35%	106.40	100.00
P-14	24"	66.08	CPP (HP)	-1.51%	101.00	100.00

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CHECKED BY: L. CHAMBERS

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DATE: \_\_\_\_\_

**CBJ REVIEW**

CHILKAT VISTAS  
SUBDIVISION, PHASE II

MICHAEL & WILLIAM HEUMANN

**R.O.W. PLAN & PROFILE**  
HOOTER LN 16+70 TO  
19+65

SHEET NUMBER

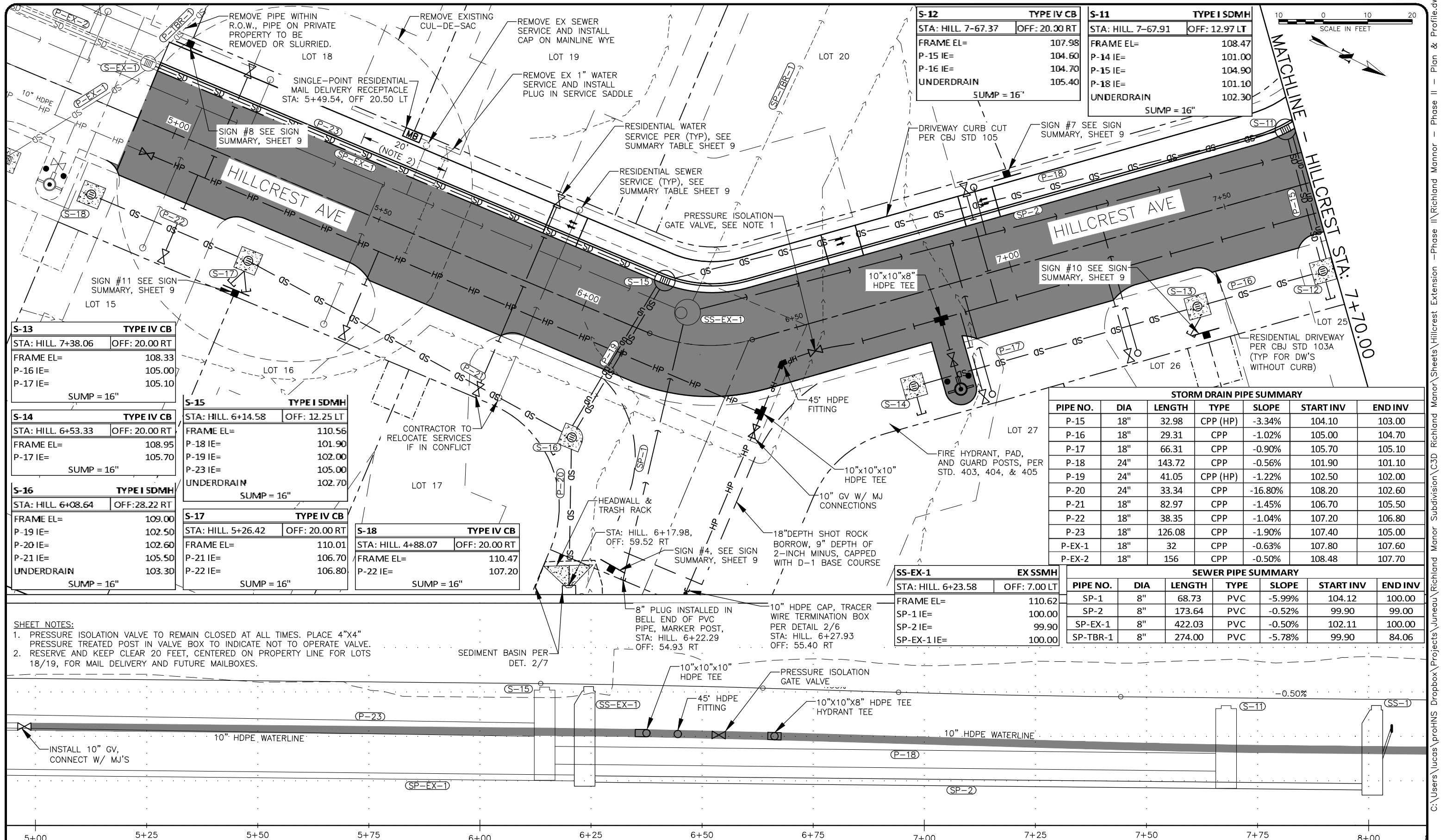
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**22**

Attachment D - Approved Construction Plan

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S-12	TYPE IV CB
STA: HILL 7-67.37	OFF: 20.00 RT
FRAME EL=	107.98
P-15 IE=	104.60
P-16 IE=	104.70
UNDERDRAIN	105.40
SUMP = 16"	

S-11	TYPE I SDMH
STA: HILL 7-67.91	OFF: 12.97 LT
FRAME EL=	108.47
P-14 IE=	101.00
P-15 IE=	104.90
P-18 IE=	101.10
UNDERDRAIN	102.30
SUMP = 16"	

S-13	TYPE IV CB
STA: HILL 7+38.06	OFF: 20.00 RT
FRAME EL=	108.33
P-16 IE=	105.00
P-17 IE=	105.10
SUMP = 16"	

S-14	TYPE IV CB
STA: HILL 6+53.33	OFF: 20.00 RT
FRAME EL=	108.95
P-17 IE=	105.70
SUMP = 16"	

S-16	TYPE I SDMH
STA: HILL 6+08.64	OFF: 28.22 RT
FRAME EL=	109.00
P-19 IE=	102.50
P-20 IE=	102.60
P-21 IE=	105.50
UNDERDRAIN	103.30
SUMP = 16"	

S-15	TYPE I SDMH
STA: HILL 6+14.58	OFF: 12.25 LT
FRAME EL=	110.56
P-18 IE=	101.90
P-19 IE=	102.00
P-23 IE=	105.00
UNDERDRAIN	102.70
SUMP = 16"	

S-17	TYPE IV CB
STA: HILL 5+26.42	OFF: 20.00 RT
FRAME EL=	110.01
P-21 IE=	106.70
P-22 IE=	106.80
SUMP = 16"	

S-18	TYPE IV CB
STA: HILL 4+88.07	OFF: 20.00 RT
FRAME EL=	110.47
P-22 IE=	107.20
SUMP = 16"	

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-15	18"	32.98	CPP (HP)	-3.34%	104.10	103.00
P-16	18"	29.31	CPP	-1.02%	105.00	104.70
P-17	18"	66.31	CPP	-0.90%	105.70	105.10
P-18	24"	143.72	CPP	-0.56%	101.90	101.10
P-19	24"	41.05	CPP (HP)	-1.22%	102.50	102.00
P-20	24"	33.34	CPP	-16.80%	108.20	102.60
P-21	18"	82.97	CPP	-1.45%	106.70	105.50
P-22	18"	38.35	CPP	-1.04%	107.20	106.80
P-23	18"	126.08	CPP	-1.90%	107.40	105.00
P-EX-1	18"	32	CPP	-0.63%	107.80	107.60
P-EX-2	18"	156	CPP	-0.50%	108.48	107.70

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-1	8"	68.73	PVC	-5.99%	104.12	100.00
SP-2	8"	173.64	PVC	-0.52%	99.90	99.00
SP-EX-1	8"	422.03	PVC	-0.50%	102.11	100.00
SP-TBR-1	8"	274.00	PVC	-5.78%	99.90	84.06

**SHEET NOTES:**  
 1. PRESSURE ISOLATION VALVE TO REMAIN CLOSED AT ALL TIMES. PLACE 4"x4" PRESSURE TREATED POST IN VALVE BOX TO INDICATE NOT TO OPERATE VALVE.  
 2. RESERVE AND KEEP CLEAR 20 FEET, CENTERED ON PROPERTY LINE FOR LOTS 18/19, FOR MAIL DELIVERY AND FUTURE MAILBOXES.

RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

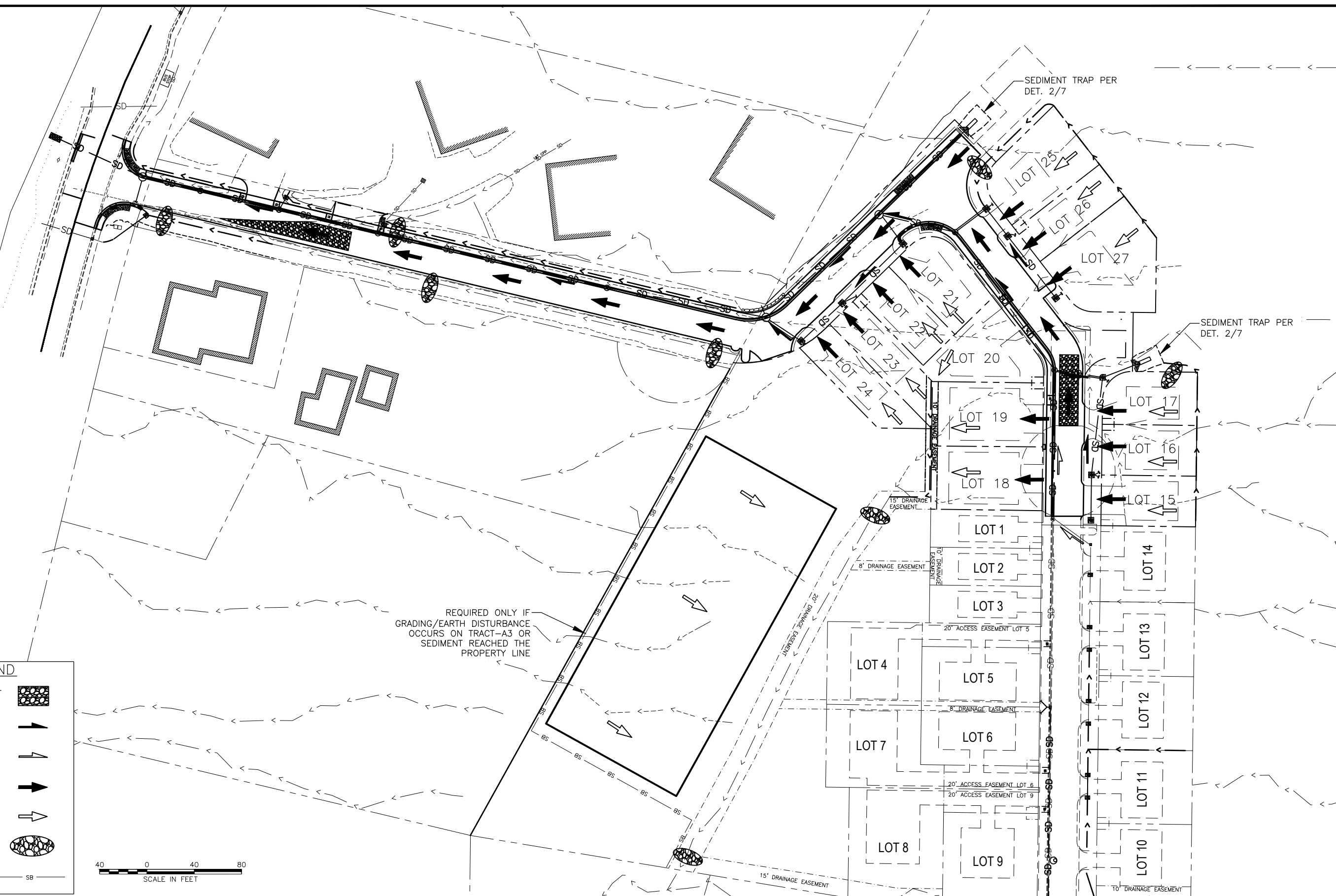
**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION #100662  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 (907) 780-4004  
 solutions@proHNS.com  
 www.proHNS.com

**CBJ REVIEW**  
 DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
 CHECKED BY: L. CHAMBERS  
 APPROVED: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
**CHILKAT VISTAS SUBDIVISION, PHASE II**  
 MICHAEL & WILLIAM HEUMANN

**R.O.W. PLAN & PROFILE**  
**HILLCREST AVE 5+50 TO 8+15**  
 SHEET NUMBER  
**C-19**  
 OF  
**22**

C:\Users\lucas\proHNS\Dropbox\Projects\Juneau\Richland Manor Subdivision\CSD Richland Manor - Phase II - Plan & Profile.dwg August 15, 2022





**SHEET LEGEND**

- STABILIZED CONSTRUCTION EXIT
- PROPOSED CULVERT FLOW
- EXISTING CULVERT FLOW
- PROFILE FLOW
- SURFACE FLOW
- ROCK CHECK DAM
- SEDIMENT BARRIER OR VEGETATED BUFFER



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION  
 #100662

DRAWN BY: C. BYDLON  
 DESIGNED BY: C. BYDLON  
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**CBJ REVIEW**

APPROVED: \_\_\_\_\_

DATE: \_\_\_\_\_

**CHILKAT VISTAS  
 SUBDIVISION, PHASE II**

MICHAEL & WILLIAM HEUMANN

**EROSION & SEDIMENT  
 CONTROL PLAN**

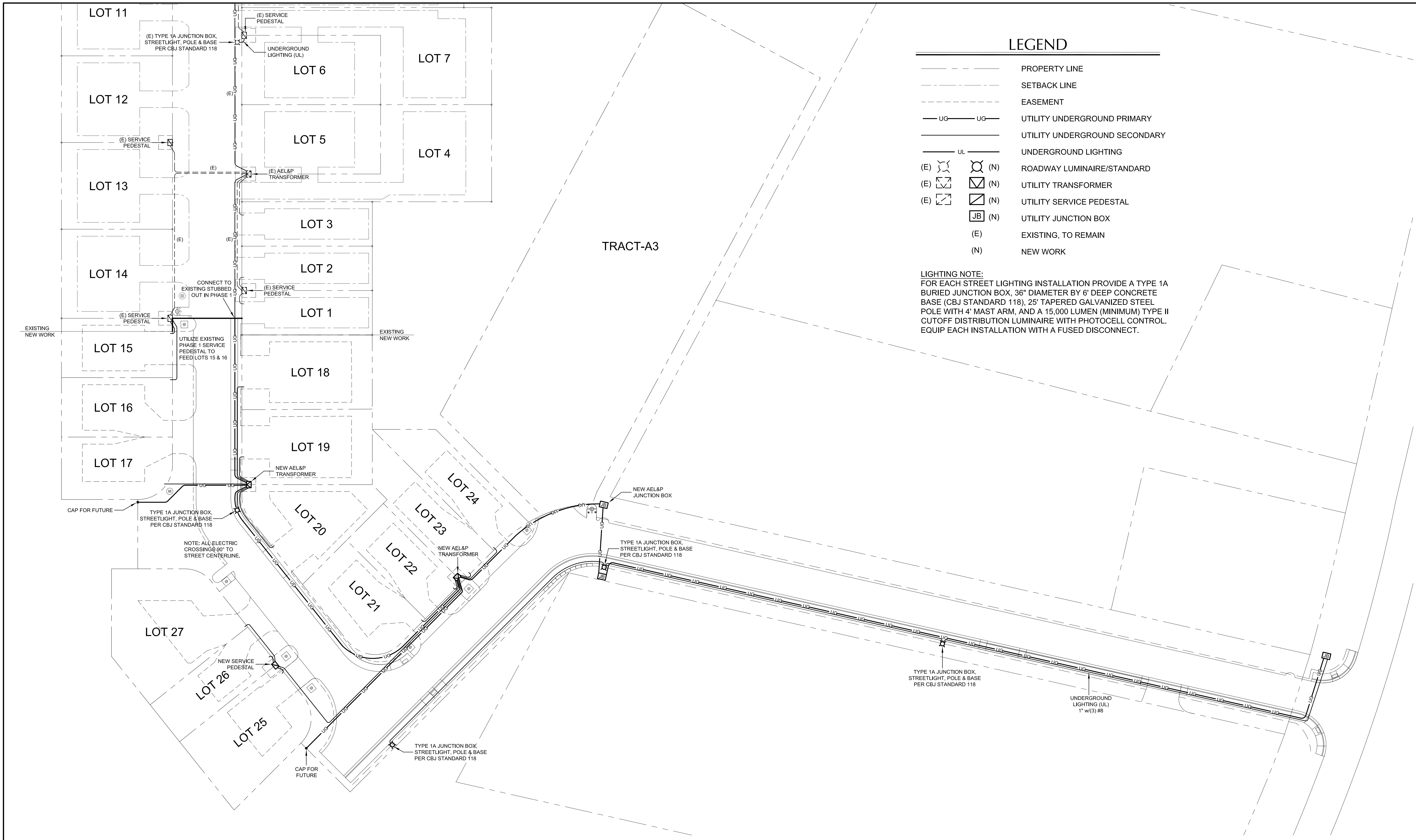
SHEET NUMBER

**C-20**

OF

**22**

Attachment D - Approved Construction Plan



**LEGEND**

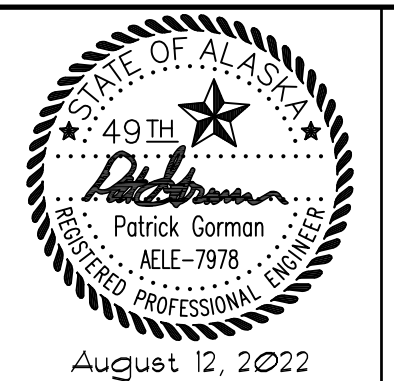
- — — — — PROPERTY LINE
- - - - - SETBACK LINE
- - - - - EASEMENT
- UG — UG — UTILITY UNDERGROUND PRIMARY
- — — — — UTILITY UNDERGROUND SECONDARY
- UL — UNDERGROUND LIGHTING
- (E) [Symbol] (N) [Symbol] ROADWAY LUMINAIRE/STANDARD
- (E) [Symbol] (N) [Symbol] UTILITY TRANSFORMER
- (E) [Symbol] (N) [Symbol] UTILITY SERVICE PEDESTAL
- [JB] (N) [Symbol] UTILITY JUNCTION BOX
- (E) EXISTING, TO REMAIN
- (N) NEW WORK

**LIGHTING NOTE:**  
 FOR EACH STREET LIGHTING INSTALLATION PROVIDE A TYPE 1A BURIED JUNCTION BOX, 36" DIAMETER BY 6" DEEP CONCRETE BASE (CBJ STANDARD 118), 25' TAPERED GALVANIZED STEEL POLE WITH 4' MAST ARM, AND A 15,000 LUMEN (MINIMUM) TYPE II CUTOFF DISTRIBUTION LUMINAIRE WITH PHOTOCELL CONTROL. EQUIP EACH INSTALLATION WITH A FUSED DISCONNECT.

SCALE	GRAPHIC		
DESIGNED	LC/PG		
DRAWN	CB/PG		
CHECKED	MH/PG		
DATE	AUGUST 12, 2022		
REV	DATE	BY	DESCRIPTION

**CHILKAT VISTAS LLC.**  
 WILLIAM C. HEUMANN  
 MICHAEL P. HEUMANN  
 6000 THANE ROAD  
 JUNEAU, ALASKA 99801  
 (971) 261-8014

**CHILKAT VISTAS  
 SUBDIVISION  
 PHASE II**



**GORMAN ENGINEERS**  
 10761 HORIZON DRIVE  
 JUNEAU, ALASKA 99801-7626  
 PHONE: 463-6721 CELL: 723-8884  
 e-mail: pgorman@gci.net










**STREET LIGHTING and  
 ELECTRICAL PLAN**  
 HILLCREST AVENUE & HOOTER LANE

DRAWING  
**E-1**  
 SHEET NO.  
 22 of 22

**NOTES:**

- 1) BASIS OF VERTICAL CONTROL IS NOAA TIDAL BENCHMARK 2200 M 2017.
- 2) BASIS OF BEARING IS BASED ON RECORD BEARING BETWEEN TWO MONUMENTS: ALL BEARINGS ARE ALASKA STATE PLANE BEARINGS AS ORIENTED TO THE BASIS OF BEARING.
- 3) SHOWN BEARINGS ARE ASP ZONE 1 NAD83(2011) TO CONVERT THE SHOWN GRID DATA TO TRUE BEARINGS:  
 ROTATION TO -00°46'16.53"  
 SCALE FACTOR 0.99960490
- 4) RECORD INFORMATION DERIVED FROM THE OFFICIAL PLAT OF US SURVEY 3263; US SURVEY 4807, PLAT OF SUBDIVISION OF LOTS 9 AND 10 US SURVEY 3263 TRACT A PLAT NO. 298 RECORDED 9 AUGUST 1961; MOUNTAINSIDE SUBDIVISION PLAT NO. 83-146 RECORDED 23 SEPTEMBER 1983; FAIRWEATHER SUBDIVISION PLAT NO. 83-147 RECORDED 23 SEPTEMBER 1983; DESERET SUBDIVISION PLAT NO. 91-9 RECORDED 28 FEBRUARY 1991; MOUNTAINSIDE SUBDIVISION II PLAT NO. 88-39 RECORDED 28 DECEMBER 1988; RICHLAND MANOR SUBDIVISION PLAT NO. 97-47 RECORDED 24 JULY 1997; VANDERBILT HILL SUBDIVISION PLAT NO. 99-52 RECORDED 29 OCTOBER 1999; A PLAT OF RESUBDIVISION OF LOT 1 CHILKAT VIEW SUBDIVISION PLAT NO. 2003-23; RECORDED 9 SEPTEMBER 2003; CHILKAT VIEW SUBDIVISION II PLAT NO. 2005-20 RECORDED 20 APRIL 2005; A PLAT OF FALLING TREE SUBDIVISION PLAT NO. 2009-18 RECORDED 7 JULY 2009; PLAT OF LOT 2A, CHILKAT VIEW SUBDIVISION II AND TRACT 1A1, US SURVEY 3246 PLAT NO. 2015-41 RECORDED 6 OCTOBER 2015; CHILKAT VISTAS SUBDIVISION PHASE 1 PLAT NO. 2020-27 RECORDED 11 AUGUST 2020 ON FILE WITH THE ALASKA DEPARTMENT OF NATURAL RESOURCES RECORDERS OFFICE IN THE JUNEAU RECORDING DISTRICT.

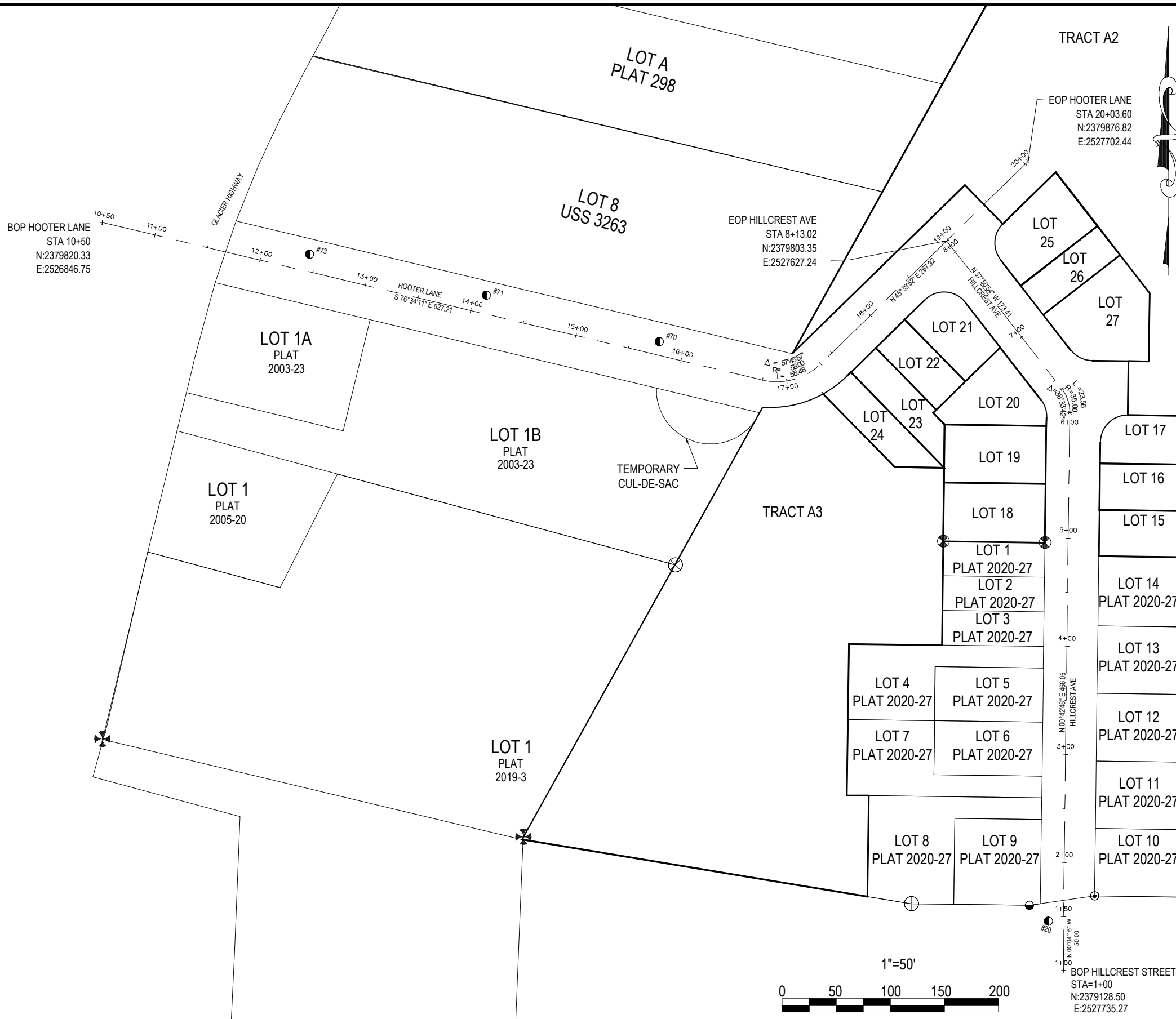
**LEGEND:**


-  BLM PRIMARY MONUMENT RECOVERED
-  R&M PRIMARY MONUMENT RECOVERED
-  JW BEAN 3650-S PRIMARY MONUMENT RECOVERED
-  CHILKAT SURVEYING PRIMARY MONUMENT RECOVERED
-  1410-S SECONDARY MONUMENT RECOVERED
-  3650-S MONUMENT RECOVERED
-  #5 REBAR RECOVERED
-  CHILKAT SURVEYING SECONDARY MONUMENT RECOVERED
-  CONTROL POINT

**CONTROL POINT TABLE**

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
20	2379174.311	2527721.233	115.39	MAGNAIL IN TBC
*21*	2378836.424	2527742.531	132.66	MAGNAIL
70	2379710.160	2527361.584	80.97	SPIKE
71	2379753.086	2527201.789	62.59	SPIKE
73	2379790.949	2527038.329	37.72	MAGNAIL

\*21 MAG NAIL ON THE EAST SIDE OF HILLCREST AVE SOUTH OF PHASE 1 WORK AREA



	RECORD OF REVISIONS				DRAWN BY: J.IVANISZEK CHECKED BY: J.IVANISZEK	<b>CBJ REVIEW</b>  APPROVED: _____ DATE: _____	CHILKAT VISTAS SUBDIVISION, PHASE II  CHILKAT VISTAS, LLC	<b>SURVEY_CONTROL</b>	SHEET NUMBER
	No.	DATE	DESCRIPTION	BY					<b>C-21</b> OF <b>22</b>
CHILKAT SURVEYING & MAPPING, LLC 10654 PORTER LANE JUNEAU, AK 99801 (907)957-1908  CERTIFICATE OF AUTHORIZATION #164023									

SMF20220003  
ROW20220098  
Permit No.

7B1001160011  
A.P.N.

BND20220033  
Bond No.

**CITY AND BOROUGH OF JUNEAU, ALASKA  
IMPROVEMENT GUARANTEE**

In order to ensure the restoration, and/or installation of improvements required by the Uniform Building Code, the City and Borough of Juneau (“CBJ”) Community Development Department, Engineering and Public Works Department, and/or the above referenced permit, the property owner or developer hereby guarantees the installation of required improvements described as:

Project Description: Construction of Chilkat Vistas Subdivision, Phase II

Follow all approved engineered plans and specifications prepared by proHNS LLC, permit conditions, current CBJ Engineering Standard Details, Specifications, and associated erratum.

Located at: Hillcrest Avenue and Hooter Lane, Chilkat Vistas Subdivision, Phase II

This document is evidence that William Heumann and Michael Heumann Has posted the sum of \$1,328,606.30 to guarantee performance of the required work as described above and as required in CBJ permit No. SMF20220003, ROW20220098 and BND20220033 incorporated by reference herein. All work must be completed by October 31, 2023 unless extended in advance in writing by agreement of the CBJ and the Developer. Should the Owner/Applicant default or fail or neglect to satisfactorily complete the required permitted restoration and/or improvements by October 31, 2023. CBJ will give written notification and allow fourteen (14) calendar days for a response before the assembly may declare the bond, escrow deposit or other guarantee forfeited to the CBJ pursuant to CBJ 49.55.010. The CBJ may use the forfeited money to perform the completion of the permitted work to defray the expense thereof.

The owner or applicant shall notify the CBJ Engineering and Public Works department when the restoration or improvements are completed to schedule an inspection of the site. Conditional acceptance of the whole or a part of the restoration or improvements shall be given after completion by written approval from the Director of Engineering. The bond, escrow deposit, or other guarantee shall then be released in whole or in part turned upon such written approval of the required improvements. The bond, escrow deposit, or other guarantee is only for the work described above and is non-transferable to other properties or persons. The owner or applicant shall notify CBJ of address change prior to request of bond, escrow deposit, or other guarantee return.

Mailing Address for Bond Return/Release:		
Name/Company:		
Address:		
City:	State:	Zip:
Phone:		

**CITY AND BOROUGH OF JUNEAU, ALASKA  
IMPROVEMENT GUARANTEE**

(Page 2)

Approved as to terms and conditions, and receipt is acknowledged by a copy hereof.

Dated this \_\_\_\_ day of \_\_\_\_\_, 2023, in Juneau, Alaska.

\_\_\_\_\_  
(Owner / Applicant Signature)

\_\_\_\_\_  
(Printed Name)

Dated this \_\_\_\_ day of \_\_\_\_\_, 2023, in Juneau, Alaska.

City and Borough of Juneau

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name, Title)

VERIFICATION GUARANTEE FUNDS

The owner/applicant, \_\_\_\_\_, has deposited the amount of \$ 1,328,606.30, to guarantee the described restoration and/or improvements by:

\_\_\_\_ 1. Payment of a cash bond in the amount of \$ \_\_\_\_\_, to the City and Borough of Juneau, Engineering Department, on \_\_\_\_\_, by cash/check no. \_\_\_\_\_, and a copy of the receipt is attached.

\_\_\_\_ 2. Posting of a corporate surety bond in the amount of \$ \_\_\_\_\_, a copy of which is attached, and which has been approved as to form by the City and Borough Attorney.

\_\_\_\_ 3. By depositing the amount of \$ \_\_\_\_\_, in an account established in the name of the City and Borough of Juneau, I.T.F. \_\_\_\_\_, located at: \_\_\_\_\_, account no.: \_\_\_\_\_. A copy of the escrow agreement is attached which has been approved as to form by the City and Borough Attorney.

Dated this \_\_\_\_ day of \_\_\_\_\_, 2023 in Juneau, Alaska.

\_\_\_\_\_  
(CBJ Department)

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

Approved as to form:

\_\_\_\_\_  
Assistant Municipal Attorney





August 11, 2022

Michael and William Heumann  
6000 Thane Rd  
Juneau, AK 99801  
[mpheumann@hotmail.com](mailto:mpheumann@hotmail.com)  
(971) 261-8014

**RE: Chilkat Vistas Subdivision, Phase II – Drainage Report**

To Whom It May Concern,

The following Drainage Plan has been prepared for the Chilkat Vistas Subdivision, Phase II in Juneau, AK, a proposed multi-phase major subdivision on a 30-acre site at the 4500 block of Hillcrest Avenue. This drainage report addresses the second phase of the overall subdivision that will create 13 new single family lots, plus 3 tracts. Phase II of the subdivision will also include extending Hillcrest Avenue and improvement/extension of Hooter Lane, which will result in a looped connection between the two streets. This drainage report is independent of any previous drainage reports as it examines all on-site and upland stormwater that will be directed through the entire project area (phase I and phase II). Phase II of this subdivision will involve rerouting a stormdrain that currently flows across private property so that this stormwater will remain within the Hillcrest Ave and Hooter Lane right-of-way in the developed conditions. Improvements include extending Hillcrest Avenue and Hooter Lane by constructing new sidewalk, street, ditches, driveways and utilities along with building pads on the newly subdivided Lots. The 2010 CBJ Manual of Stormwater Best Management Practices was used to evaluate if the proposed and existing drainage features could convey runoff during the 25-year storm event.

Attachments to this report include sheets depicting survey data, proposed ROW improvements, as-built information, calculations and rainfall data used for the drainage analysis.

**Site Runoff Calculation Method:**

The existing conditions include 2 sub-basins and 2 discharge points, and the developed conditions will include 3 sub-basins and 3 discharge points. Though stormwater will be rerouted through the project area, all discharge points combine in the wetlands on the west side of Glacier Highway, which will preserve historic drainage patterns. It should be noted that the basin for Chilkat Vistas Subdivision phase I was used as the “pre-developed” condition. Since the phase I/pre-developed phase II conditions were analyzed in a previous drainage report, the existing conditions will not be discussed in detail in this report (see the Chilkat Vistas Phase I drainage report in appendix “G” for details on the existing conditions”). The catchment areas we determined using the proposed design model, Lidar data and aerial photos in AutoCAD C3D and were verify by several site visits. A delineation of the catchment areas can be found in Appendix A. Soil conditions were based on information from Shoephorster and Furbush (1974) and the National Engineering Handbook (see appendix E for more information about the on-site soils).



To calculate the site runoff for Drainage Basins A, B, and C we have elected to use the SCS TR-55 method. The SCS TR-55 is most appropriate for evaluating drainage basins of 10 acres to 1,300 acres. Appendix D of the “2010 CBJ Manual of Stormwater Best Management Practices” was utilized as a guide. The calculations and supporting documentation can be found in Appendix B, C & F of this Report.

**Anticipated Site Runoff (Q):**

Using the SCS Unit Hydrograph Method, the amount of stormwater runoff during the 25-year storm event per catchment area was determined. The analysis shows that approximately 1.13 cfs of runoff will be removed from the discharge point A due to the proposed development. See Table 1.1 below for results, the calculations can be found in Appendix B.

<b>Catchment Area</b>	<b>Q (cfs)</b>
Drainage Basin A, Discharge Point A	<b>11.58</b>
Drainage Basin B, Discharge Point B	<b>1.03</b>
Drainage Basin C, Discharge Point C	<b>3.24</b>
<b>Table 1.1</b>	

**Conveyance/Discharge Structure Capacities:**

The capacity of the existing and proposed drainage systems was calculated to determine if proposed 25-year storm event flows could be conveyed. The entire network was analyzed in AutoCAD SSA, and the most vulnerable drainage structures/conveyance systems to failure along the analyzed flow path were also evaluated using HY-8 software. See Table 1.2 below for results on the most vulnerable drainage element in each basin’s conveyance system. The supporting calculations can be found in Appendix C.

<b>Catchment Area</b>	<b>Q (cfs)</b>
Drainage Basin A – (P-1) Proposed 36” CMP Culvert	<b>47.75</b>
Drainage Basin B – (P-EX-1) Existing 18” CPP	<b>8.89</b>
Drainage Basin C – No net increase over existing conditions.	<b>5.58</b>
<b>Table 1.2</b>	



**Summary:**

Table 1.3 below compares anticipated 25-year runoff in the proposed and existing conveyance systems to their available hydraulic capacity. To simplify and provide a conservative evaluation runoff from the entire drainage basin was used for comparison even though uphill conveyance systems would not need to handle all of the calculated runoff from the lower discharge point.

<b>Drainage Basin/Discharge Point</b>	<b>Anticipated Runoff Q (cfs)</b>	<b>Capacity Check</b>	<b>Available Capacity Q (cfs)</b>
Basin A/P-1	<b>11.58</b>	<	<b>47.75</b>
Basin B/P-EX-1	<b>1.03</b>	<	<b>8.89</b>
Basin C/Existing Ditch Near Tract-A3	<b>3.24</b>	<	<b>5.58</b>
<b>Table 1.3</b>			

Our analysis shows the proposed 36-inch CMP pipe under Glacier Highway will have an excess of capacity to accommodate the stormwater that will result from phase II of the Chilkat Vistas Subdivision, as well as potential future development. It demonstrates that there is excess capacity in the existing 18-inch CPP culvert on the southern side of Hooter Lane. Our analysis also shows that the drainage along the southern portion of Hooter Lane will see a reduction in water from the existing conditions due to a redirection of upland flows into the new 36-inch pipe on the opposite side of the street. Similarly, the existing ditch that leaves the project area at the southern portion of tract-A3 will see a net reduction in water due to the elimination of a stormdrain outfall from Hillcrest Ave in the ditch above Tract-A3.

Respectfully,

Lucas Chambers, P.E.  
Principal Engineer – proHNS LLC Juneau  
License #CE-106593



Appendices:

A – Catchment Areas & Flow Paths

B – SSA Calculations

C – HY-8 Calculations

D – Rainfall Intensity

E – Soil Data

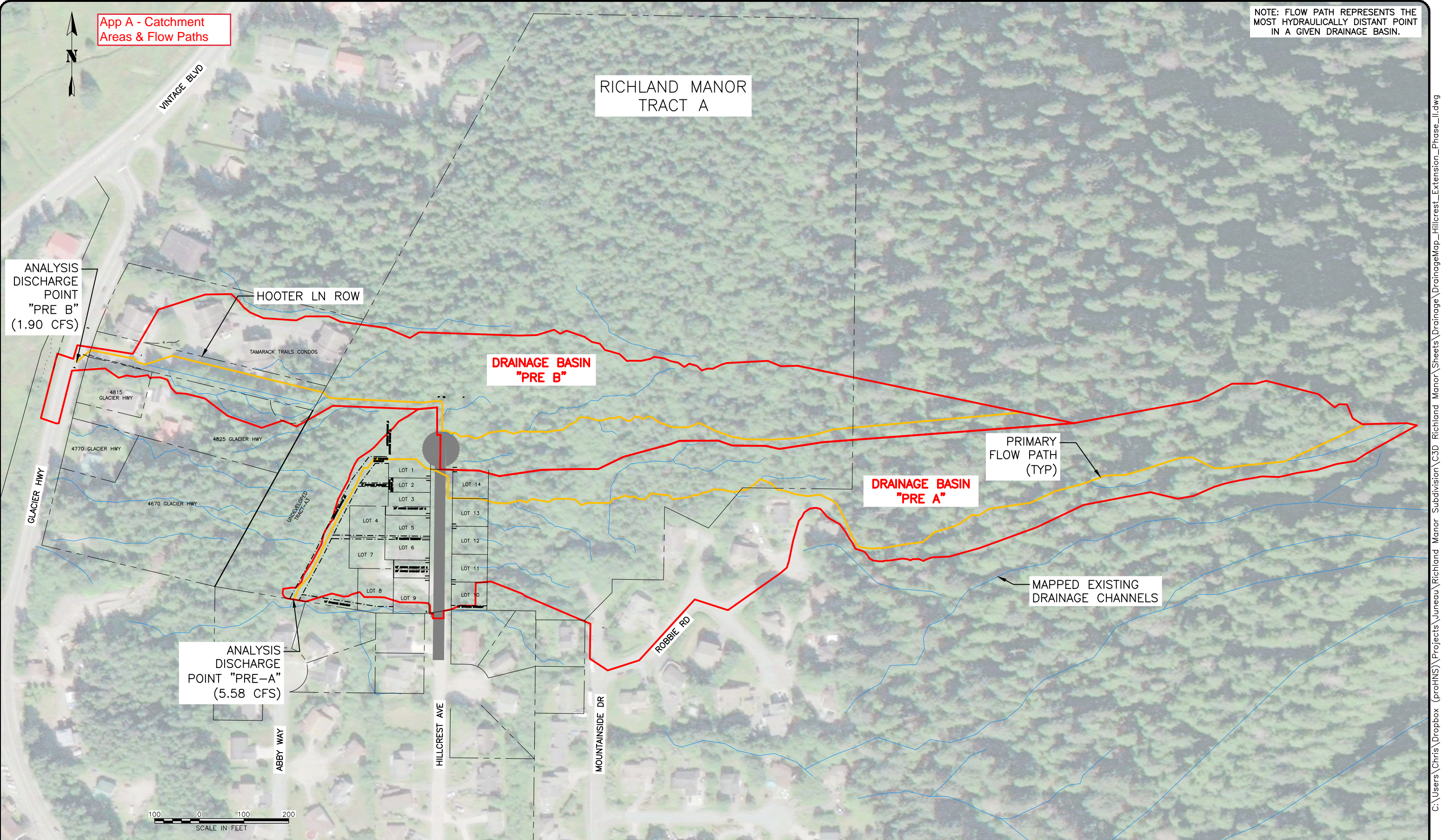
F – SCS Hydrograph

G – Prior Drainage Reports "Richland Manor Subdivision – Drainage Report dated 10/31/19, Hooter Lane Phase I ROW Improvements – Drainage Report dated 1/23/20



App A - Catchment Areas & Flow Paths

NOTE: FLOW PATH REPRESENTS THE MOST HYDRAULICALLY DISTANT POINT IN A GIVEN DRAINAGE BASIN.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION #100662  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 solutions@proHNS.com  
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DRAWN BY: C. BYDLON  
 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS

HILLCREST EXTENSION  
 SUBDIVISION  
 WILLIAM & MICHAEL HUMEANN

PREDEVELOPED  
 DRAINAGE BASIN  
 CATCHMENT AREAS

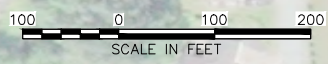
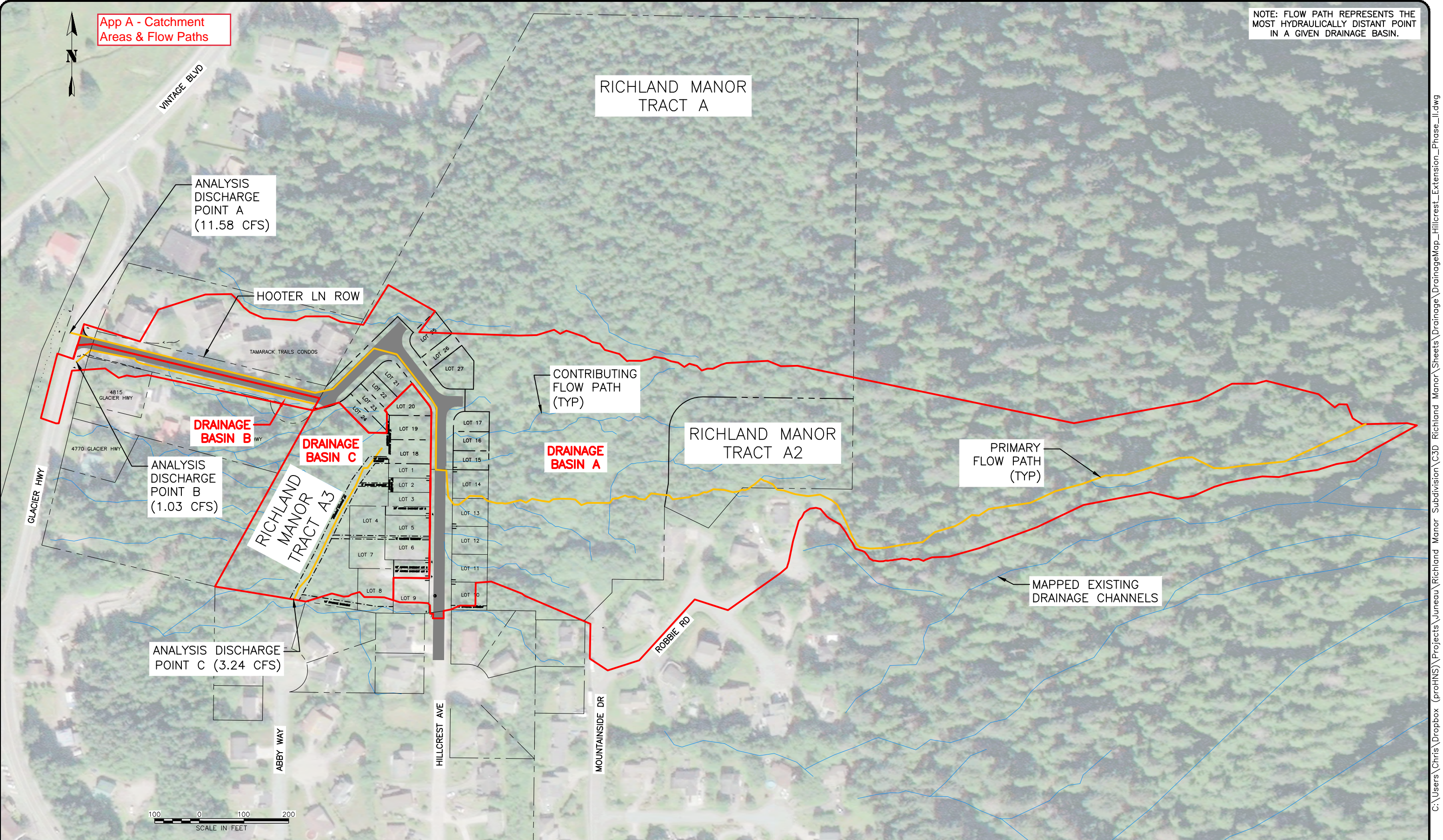
SHEET NUMBER
1
OF
2

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**App A - Catchment Areas & Flow Paths**

NOTE: FLOW PATH REPRESENTS THE MOST HYDRAULICALLY DISTANT POINT IN A GIVEN DRAINAGE BASIN.



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1945 ALEX HOLDEN WAY #101  
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solutions@proHNS.com  
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CERTIFICATE OF AUTHORIZATION #100662

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

HILLCREST EXTENSION  
SUBDIVISION

WILLIAM & MICHAEL HUMEANN

**DEVELOPED  
DRAINAGE BASIN  
CATCHMENT AREAS**

SHEET NUMBER	
2	OF
2	

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App B - SSA Calculations

Element ID	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope (%)	Pipe Shape	Pipe Diameter (inches)	Pipe Width (inches)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Peak Flow (cfs)	Max Flow Velocity (ft/sec)	Travel Time (min)	Design Flow Capacity (cfs)	Max Flow / Design Flow Ratio	Max Flow Depth / Total Depth Ratio	Total Time	Max Flow Depth	Reported Condition
P-1	S-1	END_OF_P-1	76.08	24.40	0.00	24.02	0.00	0.38	0.5000	CIRCULAR	36.000	36.00	0.0120	0.5000	0.5000	0.0000	0.00	11.58	5.84	0.22	51.07	0.23	0.32	0.00	0.97	Calculated
P-2	S-2	S-1	50.06	27.80	0.00	24.50	0.10	3.30	6.5900	CIRCULAR	30.000	30.00	0.0120	0.5000	0.5000	0.0000	0.00	11.60	14.96	0.06	114.09	0.10	0.22	0.00	0.54	Calculated
P-3	S-3	S-2	68.52	36.80	0.00	27.90	0.10	8.90	12.9900	CIRCULAR	30.000	30.00	0.0120	0.5000	0.5000	0.0000	0.00	11.60	19.00	0.06	160.14	0.07	0.18	0.00	0.45	Calculated
P-5	S-4	S-3	119.66	49.70	0.00	36.90	0.10	12.80	10.7000	CIRCULAR	30.000	30.00	0.0120	0.5000	0.5000	0.0000	0.00	11.61	17.78	0.11	145.33	0.08	0.19	0.00	0.48	Calculated
P-7	S-5	S-4	165.23	69.70	0.00	49.80	0.10	19.90	12.0400	CIRCULAR	30.000	30.00	0.0120	0.5000	0.5000	0.0000	0.00	10.12	17.67	0.16	154.21	0.07	0.17	0.00	0.44	Calculated
P-8	S-6	S-5	136.84	85.80	0.00	69.80	0.10	16.00	11.6900	CIRCULAR	30.000	30.00	0.0120	0.5000	0.5000	0.0000	0.00	9.96	17.40	0.13	151.94	0.07	0.17	0.00	0.43	Calculated
P-9	S-7	S-6	35.09	86.10	0.00	85.90	0.10	0.20	0.5700	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.47	2.61	0.22	8.59	0.06	0.16	0.00	0.24	Calculated
P-10	S-8	S-7	30.23	87.20	0.00	86.20	0.10	1.00	3.3100	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.47	4.69	0.11	20.70	0.02	0.11	0.00	0.16	Calculated
P-11	S-9	S-8	32.20	92.60	0.00	87.30	0.10	5.30	16.4600	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.47	8.42	0.06	46.17	0.01	0.07	0.00	0.11	Calculated
P-12	S-10	S-9	37.49	96.80	0.00	92.70	0.10	4.10	10.9400	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.47	7.34	0.09	37.63	0.01	0.08	0.00	0.12	Calculated
P-13	S-11	S-10	22.24	99.50	0.00	96.90	0.10	2.60	11.6900	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.47	7.50	0.05	38.91	0.01	0.08	0.00	0.12	Calculated
P-14	S-12	S-6	129.11	97.90	0.00	85.90	0.10	12.00	9.2900	CIRCULAR	30.000	30.00	0.0120	0.5000	0.5000	0.0000	0.00	9.64	16.00	0.13	135.47	0.07	0.18	0.00	0.45	Calculated
P-15	SED-TRAP-INLET_1	S-12	100.78	106.40	0.00	98.00	0.10	8.40	8.3400	CIRCULAR	24.000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	0.36	5.80	0.29	70.76	0.01	0.05	0.00	0.10	Calculated
P-16	S-13	S-12	66.08	101.00	0.00	98.00	0.10	3.00	4.5400	CIRCULAR	24.000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	9.44	12.58	0.09	52.22	0.18	0.29	0.00	0.58	Calculated
P-17	S-14	S-13	32.98	104.10	0.00	103.00	2.00	1.10	3.3400	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.57	5.12	0.11	20.78	0.03	0.11	0.00	0.17	Calculated
P-18	S-15	S-14	29.31	104.40	0.00	104.20	0.10	0.20	0.6800	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.57	2.93	0.17	9.40	0.06	0.17	0.00	0.25	Calculated
P-19	S-16	S-15	33.76	104.90	0.00	104.50	0.10	0.40	1.1800	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.57	3.57	0.16	12.39	0.05	0.15	0.00	0.22	Calculated
P-20	S-17	S-16	50.97	105.90	0.00	105.00	0.10	0.90	1.7700	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.57	4.09	0.21	15.12	0.04	0.13	0.00	0.20	Calculated
P-21	S-18	S-13	143.72	101.90	0.00	101.10	0.10	0.80	0.5600	CIRCULAR	24.000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	9.03	5.80	0.41	18.28	0.49	0.50	0.00	0.99	Calculated
P-22	S-EX-1	S-18	126.08	106.00	0.00	105.00	3.10	1.00	0.7900	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	5.87	5.94	0.35	10.13	0.58	0.55	0.00	0.82	Calculated
P-23	S-19	S-18	43.47	102.50	0.00	102.00	0.10	0.50	1.1500	CIRCULAR	24.000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	3.12	5.61	0.13	26.28	0.12	0.23	0.00	0.47	Calculated
P-24	SEDIMENT-TRAP_2	S-19	31.54	108.00	-0.20	102.50	0.00	5.50	17.4400	CIRCULAR	18.000	18.00	0.0150	0.5000	0.5000	0.0000	0.00	0.16	5.31	0.10	38.70	0.00	0.05	0.00	0.07	Calculated
P-25	S-20	S-19	40.45	106.00	0.00	105.50	3.00	0.50	1.2400	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	3.04	5.88	0.11	12.65	0.24	0.33	0.00	0.50	Calculated
P-26	S-21	S-20	42.85	106.40	0.00	106.10	0.10	0.30	0.7000	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	3.04	4.79	0.15	9.52	0.32	0.39	0.00	0.58	Calculated
P-27	S-22	S-21	38.35	106.90	0.00	106.50	0.10	0.40	1.0400	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	3.04	5.54	0.12	11.62	0.26	0.35	0.00	0.52	Calculated
P-EX-1	P-EX-1_INLET	END_OF_P-EX-1	34.92	27.50	0.00	27.10	0.00	0.40	1.1500	CIRCULAR	18.000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	1.03	4.20	0.14	12.18	0.08	0.20	0.00	0.30	Calculated

**App B - SSA Calculations**

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Boundary Type	Flap Gate	Fixed Water Elevation	Peak Inflow	Peak Lateral Inflow	Maximum HGL Depth Attained	Maximum HGL Elevation Attained
					(ft)			(ft)	(cfs)	(cfs)	(ft)	(ft)
1	END_OF_P-1	2526888.51	2379837.82		24.02	FREE	NO		11.58	0.00	0.97	24.99
2	END_OF_P-EX-1	2526933.45	2379754.07		27.10	FREE	NO		1.03	0.00	0.30	27.40
3	SWALE_NEAR_TRACT_A3	2527489.84	2379116.91		0.00	FREE	NO		3.24	3.24	0.00	0.00



Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft <sup>2</sup> )	Minimum Pipe Cover (inches)	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Maximum Surcharge Depth Attained (ft)	Minimum Freeboard Attained (ft)	Total Flooded Volume (ac-inches)	Total Time Flooded (minutes)
S-1	24.40	29.03	4.63	24.40	0.00	29.03	0.00	0.00	19.59	11.60	0.00	0.00	3.66	0.00	0.00
S-2	27.80	32.26	4.46	27.80	0.00	32.26	0.00	0.00	22.28	11.60	0.00	0.00	3.90	0.00	0.00
S-3	36.80	40.47	3.67	36.80	0.00	40.47	0.00	0.00	12.84	11.61	0.00	0.00	3.09	0.00	0.00
S-4	49.70	54.83	5.13	49.70	0.00	54.83	0.00	0.00	30.36	11.60	1.68	0.00	4.60	0.00	0.00
S-5	69.70	74.66	4.96	69.70	0.00	74.66	0.00	0.00	28.31	10.12	0.29	0.00	4.43	0.00	0.00
S-6	85.80	90.62	4.82	85.80	0.00	90.62	0.00	0.00	26.63	9.96	0.00	0.00	4.27	0.00	0.00
S-7	86.10	90.61	4.51	86.10	0.00	90.61	0.00	0.00	34.91	0.47	0.00	0.00	4.25	0.00	0.00
S-8	87.20	93.06	5.86	87.20	0.00	93.06	0.00	0.00	51.15	0.47	0.00	0.00	5.66	0.00	0.00
S-9	92.60	96.93	4.33	92.60	0.00	96.93	0.00	0.00	32.72	0.47	0.00	0.00	4.11	0.00	0.00
S-10	96.80	101.43	4.63	96.80	0.00	101.43	0.00	0.00	36.32	0.47	0.00	0.00	4.41	0.00	0.00
S-11	99.50	103.00	3.50	99.50	0.00	103.00	0.00	0.00	24.00	0.47	0.47	0.00	3.38	0.00	0.00
S-12	97.90	105.21	7.31	97.90	0.00	105.21	0.00	0.00	57.76	9.64	0.00	0.00	6.64	0.00	0.00
S-13	101.00	108.20	7.20	101.00	0.00	108.20	0.00	0.00	44.38	9.44	0.00	0.00	5.03	0.00	0.00
S-14	104.10	107.68	3.58	104.10	0.00	107.68	0.00	0.00	23.74	0.57	0.00	0.00	3.23	0.00	0.00
S-15	104.40	108.02	3.62	104.40	0.00	108.02	0.00	0.00	24.22	0.57	0.00	0.00	3.30	0.00	0.00
S-16	104.90	108.52	3.62	104.90	0.00	108.52	0.00	0.00	24.20	0.57	0.00	0.00	3.32	0.00	0.00
S-17	105.90	109.43	3.53	105.90	0.00	109.43	0.00	0.00	24.42	0.57	0.57	0.00	3.34	0.00	0.00
S-18	101.90	110.56	8.66	101.90	0.00	110.56	0.00	0.00	48.67	9.03	0.08	0.00	4.74	0.00	0.00
S-19	102.50	109.91	7.41	102.50	0.00	109.91	0.00	0.00	34.87	3.12	0.00	0.00	3.91	0.00	0.00
S-20	106.00	109.67	3.67	106.00	0.00	109.67	0.00	0.00	24.80	3.04	0.00	0.00	2.98	0.00	0.00
S-21	106.40	110.01	3.61	106.40	0.00	110.01	0.00	0.00	24.13	3.04	0.00	0.00	2.99	0.00	0.00
S-22	106.90	110.47	3.57	106.90	0.00	110.47	0.00	0.00	24.87	3.04	3.04	0.00	3.05	0.00	0.00
S-EX-1	106.00	108.47	2.47	106.00	0.00	108.47	0.00	0.00	11.60	5.88	5.88	0.00	1.65	0.00	0.00
P-EX-1_INLET	27.50	27.50	0.00	0.00	-27.50	6.00	-21.50	0.00	0.00	1.03	1.03	0.00	1.20	0.00	0.00
SEDIMENT-TRAP_2	108.20	108.20	0.00	0.00	-108.20	6.00	-102.20	0.00	0.00	0.16	0.16	0.00	1.43	0.00	0.00
SED-TRAP-INLET_1	106.40	106.40	0.00	0.00	-106.40	6.00	-100.40	0.00	0.00	0.36	0.36	0.00	1.90	0.00	0.00

SN	Element Description ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	MOUNTAINSIDE_RAIN	Time Series	TS-01	Cumulative	inches	Alaska	Juneau (B)	25	4.82	SCS Type IA 24-hr

SN	Element Description ID	Area  (acres)	Drainage Node ID	Weighted Curve Number	Rain Gage ID	Peak Rate Factor	Total Precipitation (inches)	Total Runoff (inches)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
3	GRAVEL_A-1	0.07	SED-TRAP-INLET_1	91.00	MOUNTAINSIDE_RAIN	484	4.82	3.81	0.07	0 00:05:00
4	GRAVEL_A-2	0.16	SEDIMENT-TRAP_2	91.00	MOUNTAINSIDE_RAIN	484	4.82	3.81	0.16	0 00:05:00
5	LOTS_10-14	0.65	S-EX-1	92.00	MOUNTAINSIDE_RAIN	484	4.82	3.91	0.67	0 00:06:55
6	LOTS_15-17	0.27	S-22	92.00	MOUNTAINSIDE_RAIN	484	4.82	3.91	0.28	0 00:06:06
8	LOTS_22-25	0.33	S-11	92.00	MOUNTAINSIDE_RAIN	484	4.82	3.91	0.34	0 00:11:31
9	Lots_25-27	0.34	S-17	92.00	MOUNTAINSIDE_RAIN	484	4.82	3.91	0.35	0 00:05:00
10	ROAD_A-1	0.25	S-5	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.29	0 00:05:00
11	ROAD_A-2	0.10	SED-TRAP-INLET_1	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.12	0 00:05:00
12	ROAD_A-3	0.12	S-11	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.14	0 00:05:00
13	ROAD_A-4	0.07	S-17	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.08	0 00:05:00
14	ROAD_A-5	0.07	S-18	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.08	0 00:05:00
15	ROAD_A-6	0.07	S-22	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.08	0 00:05:00
16	ROAD_A-7	0.21	S-EX-1	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.24	0 00:05:00
17	ROAD_A-8	0.12	S-22	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.14	0 00:05:00
19	TAMARACK_TRAIL_APARTMENTS	1.54	S-4	95.00	MOUNTAINSIDE_RAIN	484	4.82	4.24	1.68	0 00:09:54
21	UPLANDS_A-1	10.90	S-EX-1	77.00	MOUNTAINSIDE_RAIN	484	4.82	2.47	5.36	0 00:32:45
22	UPLANDS_A-2	5.86	S-22	77.00	MOUNTAINSIDE_RAIN	484	4.82	2.47	2.79	0 00:36:34
23	UPLANDS_A-3	0.34	S-17	77.00	MOUNTAINSIDE_RAIN	484	4.82	2.47	0.17	0 00:27:44
24	UPLANDS_A-4	0.25	SED-TRAP-INLET_1	80.00	MOUNTAINSIDE_RAIN	484	4.82	2.74	0.17	0 00:05:00
18	ROAD_B-1	0.34	P-EX-1_INLET	98.00	MOUNTAINSIDE_RAIN	484	4.82	4.58	0.39	0 00:05:00
1	ADJACENT_RESIDENTIAL_B-1	0.63	P-EX-1_INLET	92.00	MOUNTAINSIDE_RAIN	484	4.82	3.91	0.64	0 00:05:00
20	TRACT_A3	1.18	SWALE_NEAR_TRACT_A3	95.00	MOUNTAINSIDE_RAIN	484	4.82	4.24	1.29	0 00:07:50
7	LOTS_1-9_18-20	1.35	SWALE_NEAR_TRACT_A3	92.00	MOUNTAINSIDE_RAIN	484	4.82	3.91	1.38	0 00:06:43
2	GRASS/DRAINAGE_EASEMENT	0.86	SWALE_NEAR_TRACT_A3	80.00	MOUNTAINSIDE_RAIN	484	4.82	2.74	0.57	0 00:08:15

# HY-8 Analysis Results

## Crossing Summary Table

Culvert Crossing: 36-INCH CMP (PROPOSED)

Calculated Flow During  
25-Year Storm Event

Headwater Elevation (ft)	Total Discharge (cfs)	P-1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
24.89	1.00	1.00	0.00	1
25.63	5.90	5.90	0.00	1
26.17	11.58	11.58	0.00	1
26.50	15.70	15.70	0.00	1
26.86	20.60	20.60	0.00	1
27.20	25.50	25.50	0.00	1
27.54	30.40	30.40	0.00	1
27.89	35.30	35.30	0.00	1
28.29	40.20	40.20	0.00	1
28.86	45.10	45.10	0.00	1
29.29	50.00	48.73	1.25	8
29.17	47.75	47.75	0.00	Overtopping

Discharge Needed to  
Overtop Top P-1



# HY-8 Analysis Results

## Crossing Summary Table

Culvert Crossing: P-EX-1

Calculated Flow During 25-Year Storm Event

Headwater Elevation (ft)	Total Discharge (cfs)	P-EX-1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
28.11	1.03	1.03	0.00	1
28.67	3.40	3.40	0.00	1
29.12	5.80	5.80	0.00	1
29.72	8.20	8.20	0.00	1
30.07	10.60	9.06	1.51	13
30.12	13.00	9.19	3.78	5
30.17	15.40	9.28	6.06	4
30.21	17.80	9.37	8.39	4
30.24	20.20	9.46	10.67	3
30.28	22.60	9.53	13.01	3
30.31	25.00	9.63	15.37	3
30.00	8.89	8.89	0.00	Overtopping

Discharge Needed to Overtop Top P-EX-1

App D - Rainfall Intensity



NOAA Atlas 14, Volume 7, Version 2  
 Location name: Juneau, Alaska, USA\*  
 Latitude: 58.3454°, Longitude: -134.4896°  
 Elevation: 120.33 ft\*\*  
 \* source: ESRI Maps  
 \*\* source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

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

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

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.131 (0.106-0.166)	0.153 (0.122-0.197)	0.187 (0.146-0.246)	0.215 (0.165-0.287)	0.253 (0.189-0.346)	0.282 (0.207-0.393)	0.312 (0.225-0.442)	0.350 (0.248-0.505)	0.400 (0.277-0.590)	0.438 (0.299-0.657)
10-min	0.176 (0.142-0.223)	0.206 (0.164-0.265)	0.251 (0.195-0.330)	0.288 (0.220-0.385)	0.339 (0.253-0.464)	0.379 (0.278-0.528)	0.418 (0.302-0.592)	0.470 (0.333-0.678)	0.537 (0.372-0.792)	0.588 (0.401-0.882)
15-min	0.206 (0.166-0.261)	0.241 (0.192-0.310)	0.293 (0.228-0.385)	0.337 (0.258-0.450)	0.397 (0.297-0.543)	0.443 (0.325-0.617)	0.490 (0.353-0.694)	0.549 (0.389-0.791)	0.629 (0.436-0.927)	0.689 (0.470-1.03)
30-min	0.273 (0.220-0.346)	0.320 (0.255-0.411)	0.389 (0.303-0.511)	0.447 (0.342-0.597)	0.527 (0.394-0.721)	0.588 (0.432-0.819)	0.650 (0.469-0.921)	0.729 (0.517-1.05)	0.834 (0.578-1.23)	0.914 (0.623-1.37)
60-min	0.374 (0.302-0.474)	0.438 (0.349-0.563)	0.533 (0.415-0.700)	0.613 (0.469-0.819)	0.722 (0.539-0.988)	0.806 (0.592-1.12)	0.890 (0.642-1.26)	0.999 (0.708-1.44)	1.14 (0.792-1.69)	1.25 (0.853-1.88)
2-hr	0.552 (0.445-0.700)	0.647 (0.515-0.832)	0.789 (0.614-1.04)	0.906 (0.693-1.21)	1.07 (0.798-1.46)	1.19 (0.875-1.66)	1.32 (0.949-1.86)	1.48 (1.05-2.13)	1.69 (1.17-2.49)	1.85 (1.26-2.77)
3-hr	0.729 (0.588-0.925)	0.854 (0.680-1.10)	1.04 (0.811-1.37)	1.20 (0.915-1.60)	1.41 (1.05-1.93)	1.57 (1.15-2.19)	1.73 (1.25-2.46)	1.95 (1.38-2.81)	2.23 (1.54-3.29)	2.44 (1.66-3.66)
6-hr	1.17 (0.944-1.48)	1.37 (1.09-1.76)	1.67 (1.30-2.19)	1.92 (1.47-2.56)	2.26 (1.69-3.09)	2.52 (1.85-3.51)	2.78 (2.01-3.94)	3.13 (2.22-4.51)	3.58 (2.48-5.27)	3.92 (2.67-5.88)
12-hr	1.76 (1.42-2.23)	2.06 (1.64-2.65)	2.50 (1.95-3.29)	2.87 (2.19-3.83)	3.38 (2.53-4.62)	3.79 (2.78-5.27)	4.21 (3.04-5.96)	4.73 (3.35-6.82)	5.42 (3.76-7.99)	5.94 (4.05-8.91)
24-hr	2.54 (2.30-2.84)	2.97 (2.65-3.37)	3.59 (3.14-4.16)	4.10 (3.52-4.83)	4.82 (4.05-5.81)	5.41 (4.46-6.64)	6.04 (4.90-7.54)	6.78 (5.41-8.61)	7.76 (6.05-10.1)	8.51 (6.52-11.2)
2-day	3.45 (3.12-3.87)	4.01 (3.58-4.55)	4.79 (4.19-5.55)	5.42 (4.65-6.38)	6.29 (5.28-7.59)	7.00 (5.77-8.59)	7.74 (6.28-9.66)	8.59 (6.85-10.9)	9.72 (7.57-12.6)	10.6 (8.10-13.9)
3-day	4.10 (3.70-4.58)	4.73 (4.22-5.36)	5.61 (4.90-6.49)	6.30 (5.41-7.42)	7.26 (6.09-8.75)	8.03 (6.62-9.85)	8.82 (7.15-11.0)	9.72 (7.75-12.3)	10.9 (8.51-14.2)	11.8 (9.06-15.6)
4-day	4.63 (4.18-5.18)	5.32 (4.75-6.04)	6.28 (5.49-7.27)	7.03 (6.04-8.28)	8.07 (6.77-9.72)	8.88 (7.33-10.9)	9.73 (7.89-12.1)	10.7 (8.51-13.6)	11.9 (9.30-15.5)	12.9 (9.87-17.0)
7-day	5.98 (5.40-6.69)	6.84 (6.10-7.75)	8.02 (7.00-9.28)	8.94 (7.68-10.5)	10.2 (8.57-12.3)	11.2 (9.25-13.8)	12.3 (9.93-15.3)	13.4 (10.7-17.0)	15.0 (11.7-19.4)	16.1 (12.4-21.3)
10-day	7.07 (6.39-7.92)	8.07 (7.20-9.15)	9.44 (8.24-10.9)	10.5 (9.02-12.4)	12.0 (10.0-14.4)	13.1 (10.8-16.1)	14.3 (11.6-17.8)	15.6 (12.5-19.8)	17.4 (13.6-22.6)	18.7 (14.4-24.7)
20-day	10.6 (9.59-11.9)	12.1 (10.8-13.7)	14.1 (12.3-16.3)	15.6 (13.4-18.3)	17.6 (14.8-21.2)	19.2 (15.8-23.5)	20.7 (16.8-25.9)	22.4 (17.9-28.5)	24.7 (19.3-32.1)	26.4 (20.2-34.8)
30-day	14.0 (12.6-15.6)	15.9 (14.2-18.1)	18.5 (16.2-21.4)	20.4 (17.5-24.0)	22.9 (19.3-27.7)	24.9 (20.5-30.5)	26.8 (21.7-33.4)	28.8 (23.0-36.6)	31.5 (24.6-40.9)	33.5 (25.7-44.2)
45-day	18.5 (16.7-20.7)	21.1 (18.8-23.9)	24.5 (21.4-28.4)	27.0 (23.2-31.8)	30.1 (25.3-36.3)	32.5 (26.8-39.8)	34.8 (28.2-43.4)	37.1 (29.5-47.1)	40.1 (31.3-52.0)	42.4 (32.5-55.9)
60-day	22.1 (19.9-24.7)	25.4 (22.6-28.8)	29.5 (25.7-34.1)	32.3 (27.8-38.1)	35.9 (30.1-43.3)	38.4 (31.7-47.1)	40.8 (33.1-50.9)	43.0 (34.2-54.5)	45.8 (35.7-59.5)	48.0 (36.8-63.4)

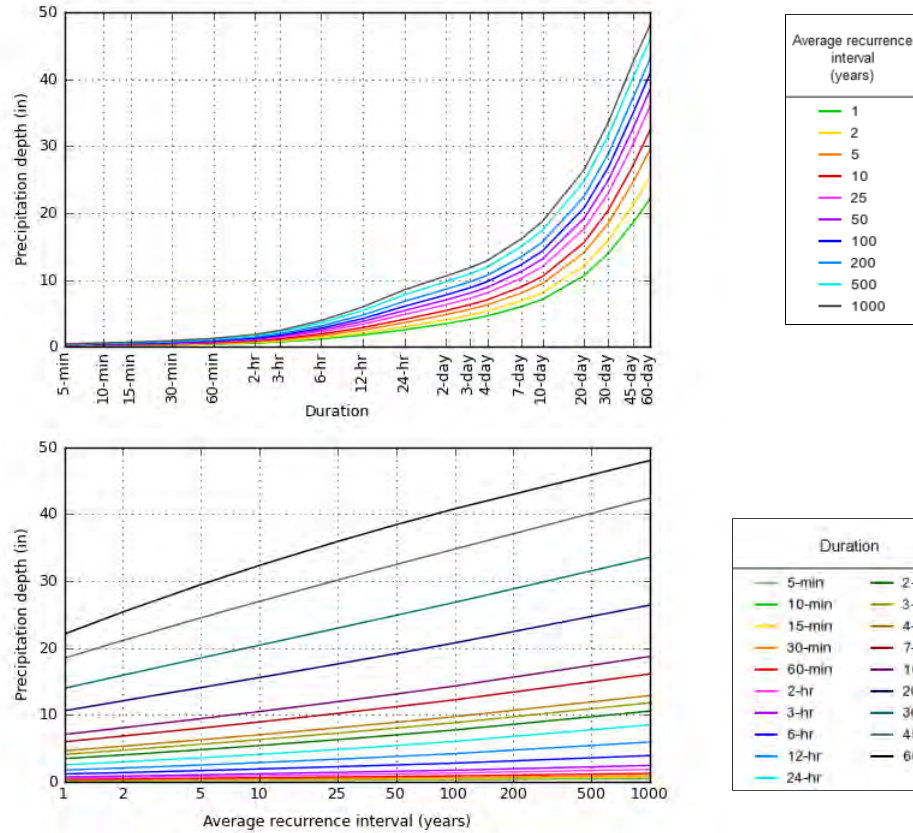
<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

App D - Rainfall Intensity

PDS-based depth-duration-frequency (DDF) curves  
Latitude: 58.3454°, Longitude: -134.4896°



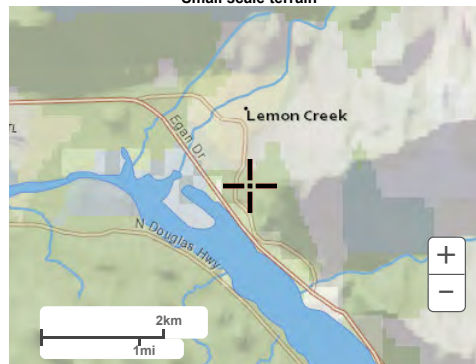
NOAA Atlas 14, Volume 7, Version 2

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[Back to Top](#)

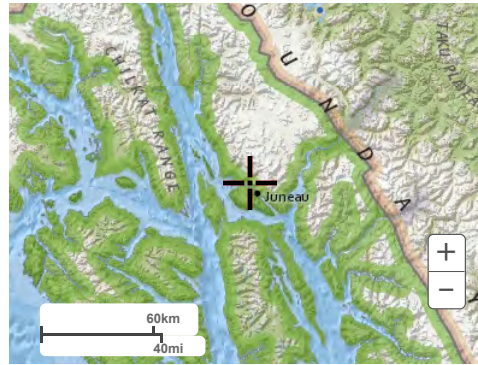
Maps & aerials

Small scale terrain

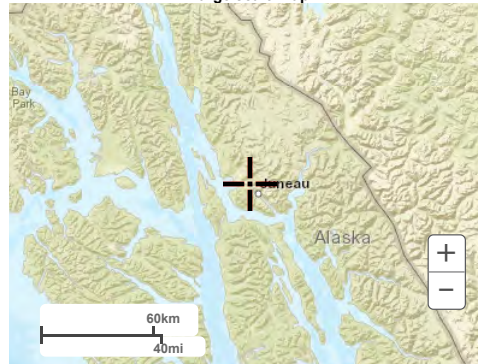


Large scale terrain

App D - Rainfall Intensity



Large scale map



Large scale aerial

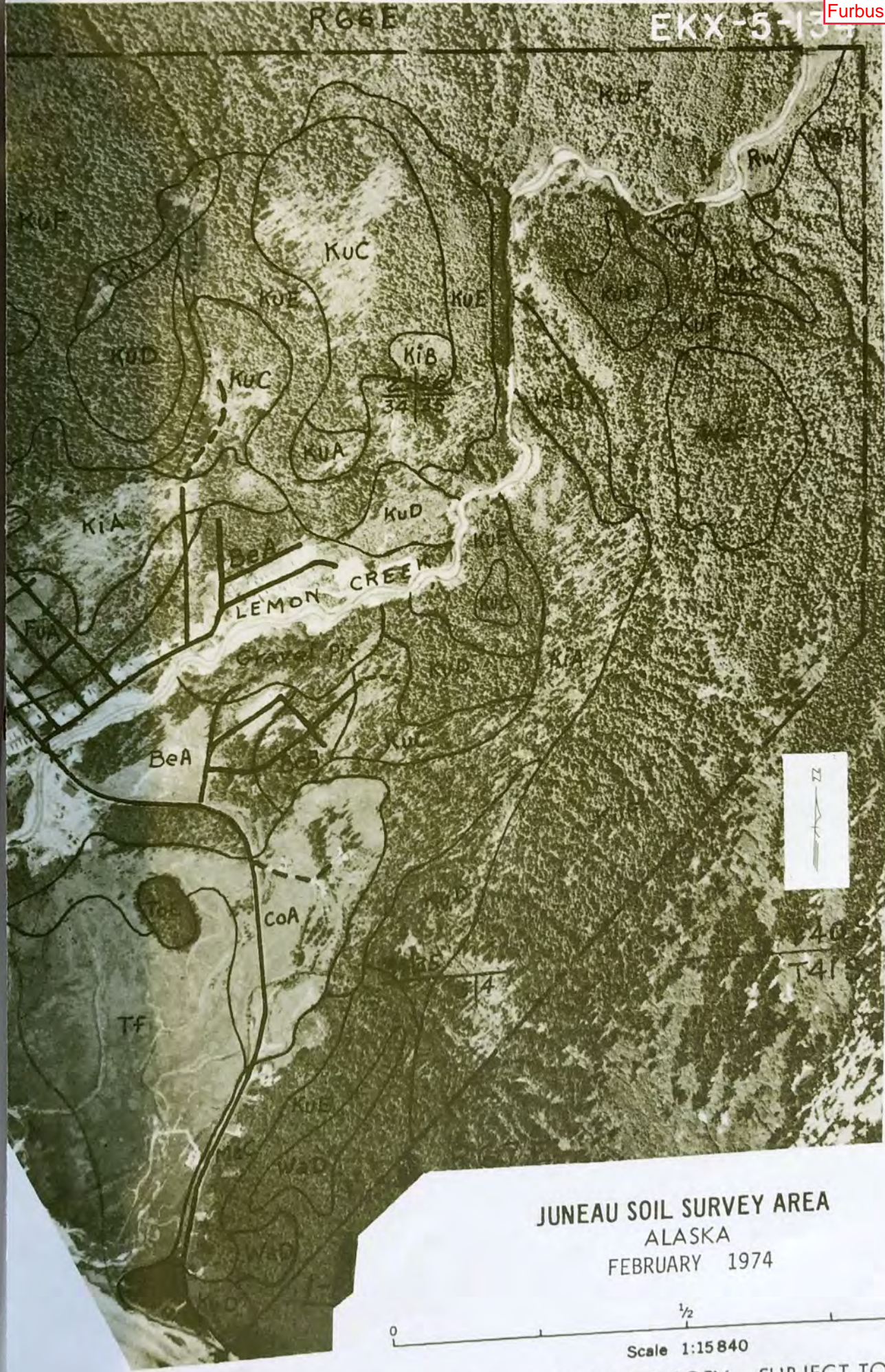


[Back to Top](#)

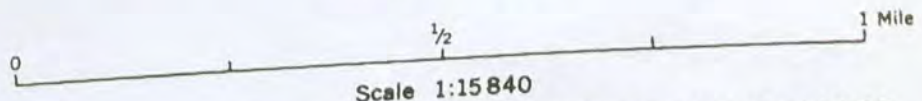
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**JUNEAU SOIL SURVEY AREA**  
ALASKA  
FEBRUARY 1974



Scale 1:15840

USDA - SCS      ADVANCE COPY - SUBJECT TO CHANGE  
SHEET 8 of 14



0i2 18-60" Yellowish brown (10YR 5/6) peat, yellow (10YR 7/6) pressed; about 80 percent fiber, 50 percent after rubbing; largely sphagnum moss fibers; extremely acid.

The peat materials are more than 5 feet thick. They may be underlain by till, bedrock, or alluvial sediments. The water table is usually near the surface.

Mapping Units:

- (KoA) - Kogish peat, 0 to 3 percent slopes
- (KoB) - Kogish peat, 3 to 7 percent slopes
- (KoC) - Kogish peat, 7 to 12 percent slopes
- (KoD) - Kogish peat, 12 to 20 percent slopes

The Kogish soils in these mapping units are similar except for gradient. In places, small ponds and patches of Kina and Fu soils are included in the mapped areas.

Kupreanof Series

The Kupreanof series consists of well drained soils on moraines. These soils are formed in very gravelly loamy till. Beneath a layer of forest litter, they have a thin light brownish gray layer, fairly thick layers with dark reddish brown to dark grayish brown colors, and an olive gray substratum. They support a forest dominated by Sitka spruce and western hemlock.

Representative profile of Kupreanof gravelly silt loam; NW $\frac{1}{4}$ , NW $\frac{1}{4}$ , Sec. 11, T39S, R64E, Copper River Meridian.

- 01 7-2" Black (10YR 2/1) partially decomposed forest litter; many roots; abrupt smooth boundary.
- 02 2-0" Black (5YR 2/1) muck; many roots; extremely acid; abrupt smooth boundary.
- A2 0-1 $\frac{1}{2}$ " Light brownish gray (10YR 6/2) gravelly silt loam; massive; very friable; smeary; many fine roots; extremely acid; abrupt irregular boundary.

- B21 1½-4" Dark reddish brown (5YR 2/2) gravelly silt loam; weak fine granular structure; very friable; smeary; few roots; extremely acid; abrupt wavy boundary.
- B22 4-9" Dark reddish brown (5YR 3/4) gravelly silt loam; weak fine subangular blocky structure; very friable; smeary; extremely acid; gradual boundary.
- B23 9-18" Dark brown (7.5YR 4/4) gravelly silt loam; weak fine sub-angular blocky structure; very friable; smeary; few roots; very strongly acid; clear wavy boundary.
- B3 18-24" Dark grayish brown (2.5Y 4/2) very gravelly sandy loam; few patches of dark brown (7.5YR 3/3); massive; friable; strongly acid; clear wavy boundary.
- C1 24-60" Olive gray (5Y 4/2) very gravelly sandy loam; massive; friable; strongly acid.

The texture of the mineral surface layer ranges from gravelly silt loam to very gravelly sandy loam. The substratum ranges in texture from very gravelly loam to very gravelly sandy loam. Coarse fragments make up 40 to 60 percent of its volume. Large stones and boulders are common.

Mapping Units:

- (KuA) - Kupreanof gravelly silt loam, 0 to 3 percent slopes
- (KuB) - Kupreanof gravelly silt loam, 3 to 7 percent slopes
- (KuC) - Kupreanof gravelly silt loam, 7 to 12 percent slopes
- (KuD) - Kupreanof gravelly silt loam, 12 to 20 percent slopes

The Kupreanof soils in each of these mapping units are similar except for gradient. The mapped areas include small spots of Wadleigh, Maybeso, and Karta soils. There are also a few patches of Tolstoi soils.

- (KuE) - Kupreanof gravelly silt loam, 20 to 35 percent slopes
- (KuF) - Kupreanof gravelly silt loam, 35 to 75 percent slopes

Mapped, but not consistent with soils encountered on-site during phase I

These soils occur on moderately steep and steep uplands. In addition to small spots of Tolstoi and Karta soils, the mapped areas include a few nearly level to moderately sloping Kupreanof soils on narrow benches and rounded ridgetops.

Mapped and consistent with soils encountered on-site during phase I

In the Tolstoi soils, depth to bedrock ranges from 5 to 20 inches. The texture of the soil materials ranges from stony silt loam to very stony sandy loam.

In the McGilverly soils, the forest litter ranges from 6 to 20 inches in thickness. In places, 1 to 4 inches of loamy material occurs between the litter and the underlying bedrock.

Mapping Units:

- (ToC) & (ToD) - Tolstoi-McGilvery complex, 12 to 20 percent slopes  
 (ToE) - Tolstoi-McGilvery complex, 20 to 35 percent slopes  
 (ToF) - Tolstoi-McGilvery complex, 35 to 75 percent slopes

The soils in these mapping units are similar except for gradient. They commonly have very rough irregular slopes. The mapped areas include many sheer rocky cliffs and other rock outcrops, and wet spots with Wadleigh, Maybeso, and Kaikli soils.

Wadleigh Series

The Wadleigh series consists of somewhat poorly drained soils that occur on lower slopes of hills and mountains. These soils are formed in very gravelly loamy materials underlain by firm glacial till that impedes internal drainage. They have a mat of forest litter, a thin grayish brown layer, and dark reddish brown to dark yellowish brown layers above the firm substratum. The vegetation is a forest of western hemlock and scattered Sitka spruce.

Representative profile of Wadleigh gravelly silt loam; NE $\frac{1}{4}$  NW $\frac{1}{4}$ , Sec. 25, T37S, R63E, Copper River Meridian.

- 01 8-3" Dark reddish brown (5YR 2/2) partially decomposed forest litter; many roots; clear smooth boundary.
- 02 3-0" Black (5YR 2/1) finely divided organic matter; many roots; abrupt smooth boundary.



- A2 0-3" Grayish brown (10YR 5/2) gravelly silt loam; few fine prominent (7.5YR 4/4) mottles; very weak medium subangular blocky structure; friable; roots common; abrupt wavy boundary.
- B21 3-5" Dark reddish brown (5YR 2/2) very gravelly silt loam; moderate fine granular structure; very friable; few soft fine concretions; few weakly cemented fragments; smeary when rubbed; roots common; very strongly acid; clear irregular boundary.
- B22 5-10" Dark brown (7.5YR 3/2) very gravelly sandy loam; weak fine subangular blocky structure; friable; slightly smeary; roots common; very strongly acid; clear wavy boundary.
- B23 10-16" Dark yellowish brown (10YR 3/4) very gravelly sandy loam; very weak medium subangular blocky structure; friable; roots common; very strongly acid; clear smooth boundary.
- B3x 16-23" Olive brown (2.5Y 4/4) very gravelly sandy loam; few fine prominent strong brown (7.5YR 5/6) mottles, and many streaks of dark brown (10YR 4/3); weak medium platy structure; weakly cemented; slightly brittle; clear smooth boundary.
- Clx 23-30" Patchy olive gray (5Y 4/2) and dark grayish brown (2.5Y 4/2) very gravelly sandy loam; few medium distinct olive brown (2.5Y 4/4) mottles; very weak medium platy structure; weakly cemented; slightly brittle; clear smooth boundary.
- C2 30-60" Olive gray (5Y 4/2) very gravelly loam; few medium faint dark gray (5Y 4/1) mottles; massive; slightly sticky, slightly plactic; very strongly acid.

The surface texture ranges from silt loam to very gravelly sandy loam. Below 10 inches coarse fragments, including cobblestones, make up 35 to 65 percent of the soil volume. Depth to the firm substratum ranges from 15 to 25 inches. Seepage water from adjacent higher areas is commonly perched above the very slowly permeable compact substratum.

Mapping Units:

- (WaA) & (WaB) - Wadleigh gravelly silt loam, 3 to 7 percent slopes
- (WaC) & (FoC) - Wadleigh gravelly silt loam, 7 to 12 percent slopes
- (WaD) - Wadleigh gravelly silt loam, 12 to 20 percent slopes
- (WaE) & (WaF) - Wadleigh gravelly silt loam, 20 to 50 percent slopes

Mapped and consistent with soils encountered on-site during phase I

Table 1. Estimated Physical and Chemical Properties of the Soils.

Soil series or land type	Map Symbol	Depth to seasonally high water table (feet)	Depth to bedrock (feet)	Depth from surface typical profile (inches)	Classification			Permeability <sup>2/</sup> (inches/hour)	Reaction pH	Shrink-swell potential	Corrosivity potential	
					USDA Texture <sup>1/</sup>	Unified	AASHO				Untreated steel pipe	Concrete pipe
Am	AmA AmB	<2	>5	0-60	fsl	SM or ML	A-2 or A-4	0.6 -2.0	5.1-5.5	low	high	moderate
Au	AuA AuB	>5	>5	0-9 9-60	vgsl vgs	GM GP or GW	A-1 or A-2 A-1	2.0 -6.0 >6.0	4.0-5.0 4.0-5.0	low low	moderate	moderate
Be	BeA BeB BeC BeD	4 to 5	>5	0-60	vgs	GP or GW	A-1	>6.0	5.1-5.5	low	moderate	moderate
Co	CoA	<2	>5	0-60	sil	ML	A-4	0.6 -2.0	5.1-5.5	low	high	moderate
Fu	FuA	<1	>5	0-24 24-60	pt si	Pt ML	A-8 A-4	- 0.6 -2.0	5.1-5.5 5.5-6.0	high shrink, low swell low	high	high
Gravelly beach	Gb	0	>5	0-60	vgs or vgsl	GW or GM	A-1	>6.0	-	low	high	high
Gravel pit	Gp	Variable material										
He	HeA	4 to 5	>5	0-52 52-60	fsl vgs	SM or ML GP or GW	A-2 or A-4 A-1	0.6 -2.0 >6.0	5.1-5.5 5.1-5.5	low low	high	moderate
Kaikli	KaB KaC KaD KaE	<1	1 to 3	0-19 19-26 26+	pt vgl bedrock	Pt GM -	A-8 A-1 or A-2 -	- 0.2 -0.6 -	4.5-5.5 4.5-5.5 -	high shrink, low swell -	high	moderate
Karheen	KhA KhC	<2	>5	0-60	very gravelly muck	GM	A-1	0.6 -2.0	5.1-5.5	low	high	high
Karta	KtC KtE KtF	>5	>5	0-11 11-34 34-60	gsil vgsl vgsl	ML GM GM	A-4 A-1 A-1	0.6 -2.0 <0.06 0.2 -0.6	4.5-5.0 4.5-5.0 4.5-5.5	low low low	high	moderate
Kina	KiA KiB KiC KiD	<1	>5	0-60	pt	Pt	A-8	-	4.5-5.0	high shrink, low swell	high	high
Kogish	KoA KoB KoC KoD	<1	>5	0-60	pt	Pt	A-8	-	<4.5	high shrink, low swell	high	high
Kupreanof	KuA, KuB, KuC, KuD, KuE, KuF	>5	>5	0-18 18-60	qsil vgsl	ML GM	A-4 A-1	0.6 -2.0 0.6 -2.0	4.5-5.0 5.1-5.5	low low	high	moderate

Table 1. Estimated Physical and Chemical Properties of the Soils. (Continued)

Soil series or land type	Map Symbol	Depth to seasonally high water table (feet)	Depth to bedrock (feet)	Depth from surface typical profile (inches)	Classification			Permeability <sup>2/</sup> (inches/hour)	Reaction pH	Shrink-swell potential	Corrosivity potential		
					USDA Texture <sup>1/</sup>	Unified	AASHO				Untreated steel pipe	Concrete pipe	
Le	LeA	<1	>5	0-60	sil	ML	A-4	0.6 -2.0	5.1-5.5	low	high	moderate	
Maybeso	MaA, MaB, MaC, MaD	<2	>5	0-27	pt	Pt	A-8	-	4.5-5.5	high shrink, low swell	high	moderate	
	27-60			vgl	GM	A-1 or A-2	0.06-0.2	5.1-5.5	low				
McGilvery-in complex with Tolstoi	-	1/2-1 1/2	14+	0-14	pt	Pt	A-8	-	4.5	high shrink, low swell	high	moderate	
					bedrock	-	-	-	-	-	-	-	-
Mh	MhB, MhC, MhD	>5	>5	0-60	gsl	GM	A-1	0.6 -2.0	5.1-5.5	low	high	moderate	
Riverwash	Rw	0	>5	0-60	vgs	GP or GW	A-1	>6.0	-	low	high	moderate	
Salt Chuck	SaA	4 to 5	>5	0-17	vgsil or vgs1	GM	A-1 or A-2	0.6-2.0	4.5-5.5	low	high	moderate	
	SaB, SaC			17-60	vgl	GP-GM	A-1	2.0-6.0	4.5-5.5	low			
Tidal Flats	Tf	0	>5	0-60	variable material			-	-	-	-	-	
Tolstoi	ToC	-	1/2 to 2	0-9	vstsil	ML	A-4	0.6 -2.0	4.5-5.0	low	-	-	
	ToD			9+	bedrock	-	-	-	-	-	-	-	
	ToE												
	ToF												
Wadleigh	WaA, WaB	<1	>5	0-16	vgsil or vgs1	GM	A-1 or A-2	0.6 -2.0	4.5-5.0	low	high	moderate	
	WaC, FoC,			16-30	vgs1	GM or SM	A-1	<0.06	4.5-5.5	low			
	WaD, WaE, WaF			30-60	vgl	GM	A-1 or A-2	0.2 -0.6	4.5-5.5	low			

<sup>1/</sup> Symbols have the following meanings (see glossary):  
 fsl - fine sandy loam  
 gsil - gravelly silt loam  
 pt - peat  
 sl - silt  
 gsl - gravelly sandy loam  
 vgs - very gravelly sand  
 sil - silt loam  
 vgsil - very gravelly silt loam  
 vgs1 - very gravelly sandy loam  
 vstsil - very stony silt loam

<sup>2/</sup> Permeability is for soil without compaction; for wet soils, the permeability is that to be expected after removal of free water.

**Table 7-1** Criteria for assignment of hydrologic soil group (HSG)

Depth to water impermeable layer <sup>1/</sup>	Depth to high water table <sup>2/</sup>	K <sub>sat</sub> of least transmissive layer in depth range	K <sub>sat</sub> depth range	HSG <sup>3/</sup>
<50 cm [<20 in]	—	—	—	D
50 to 100 cm [20 to 40 in]	<60 cm [<24 in]	>40.0 μm/s (>5.67 in/h)	0 to 60 cm [0 to 24 in]	A/D
		>10.0 to ≤40.0 μm/s (>1.42 to ≤5.67 in/h)	0 to 60 cm [0 to 24 in]	B/D
		>1.0 to ≤10.0 μm/s (>0.14 to ≤1.42 in/h)	0 to 60 cm [0 to 24 in]	C/D
		≤1.0 μm/s (≤0.14 in/h)	0 to 60 cm [0 to 24 in]	D
	≥60 cm [≥24 in]	>40.0 μm/s (>5.67 in/h)	0 to 50 cm [0 to 20 in]	A
		>10.0 to ≤40.0 μm/s (>1.42 to ≤5.67 in/h)	0 to 50 cm [0 to 20 in]	B
		>1.0 to ≤10.0 μm/s (>0.14 to ≤1.42 in/h)	0 to 50 cm [0 to 20 in]	C
		≤1.0 μm/s (≤0.14 in/h)	0 to 50 cm [0 to 20 in]	D
>100 cm [>40 in]	<60 cm [<24 in]	>10.0 μm/s (>1.42 in/h)	0 to 100 cm [0 to 40 in]	A/D
		>4.0 to ≤10.0 μm/s (>0.57 to ≤1.42 in/h)	0 to 100 cm [0 to 40 in]	B/D
		>0.40 to ≤4.0 μm/s (>0.06 to ≤0.57 in/h)	0 to 100 cm [0 to 40 in]	C/D
		≤0.40 μm/s (≤0.06 in/h)	0 to 100 cm [0 to 40 in]	D
	60 to 100 cm [24 to 40 in]	>40.0 μm/s (>5.67 in/h)	0 to 50 cm [0 to 20 in]	A
		>10.0 to ≤40.0 μm/s (>1.42 to ≤5.67 in/h)	0 to 50 cm [0 to 20 in]	B
		>1.0 to ≤10.0 μm/s (>0.14 to ≤1.42 in/h)	0 to 50 cm [0 to 20 in]	C
		≤1.0 μm/s (≤0.14 in/h)	0 to 50 cm [0 to 20 in]	D
>100 cm [>40 in]	>10.0 μm/s (>1.42 in/h)	0 to 100 cm [0 to 40 in]	A	
	>4.0 to ≤10.0 μm/s (>0.57 to ≤1.42 in/h)	0 to 100 cm [0 to 40 in]	B	
	>0.40 to ≤4.0 μm/s (>0.06 to ≤0.57 in/h)	0 to 100 cm [0 to 40 in]	C	
	≤0.40 μm/s (≤0.06 in/h)	0 to 100 cm [0 to 40 in]	D	

WaD Soil Type Classification

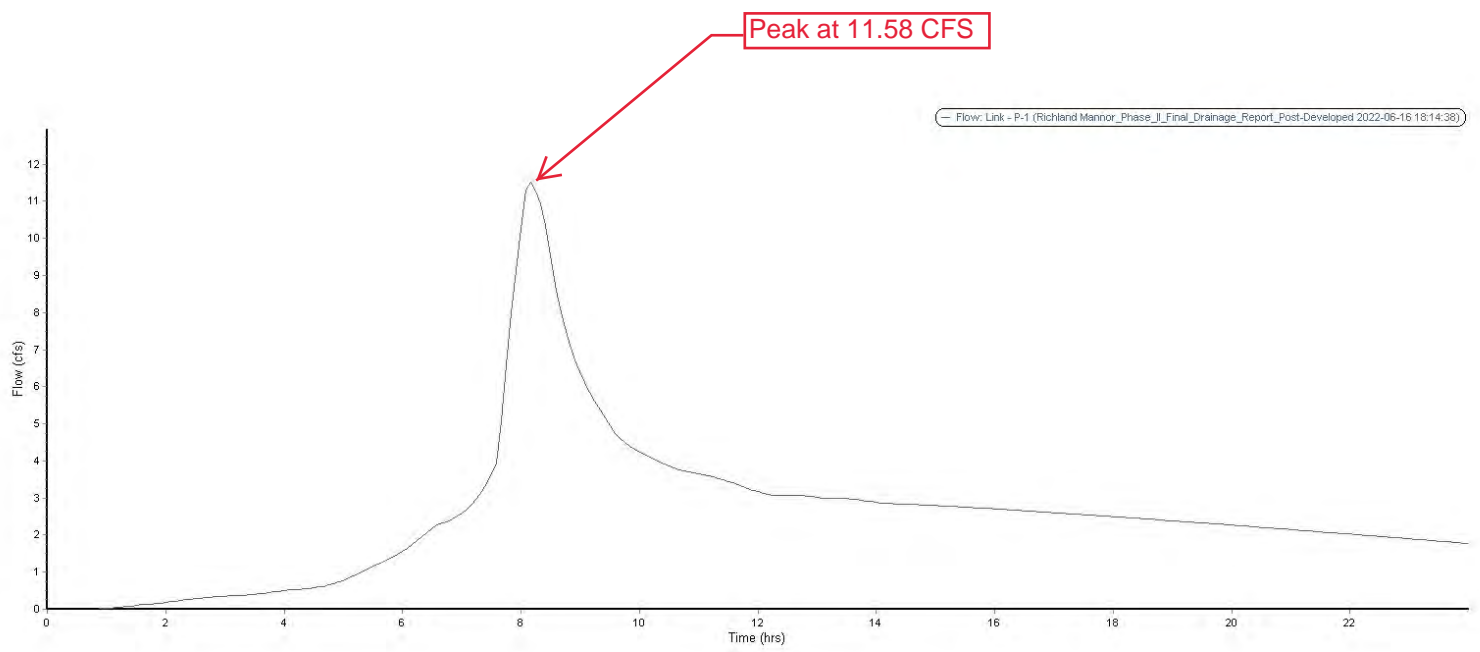
KuE Soil Type Classification

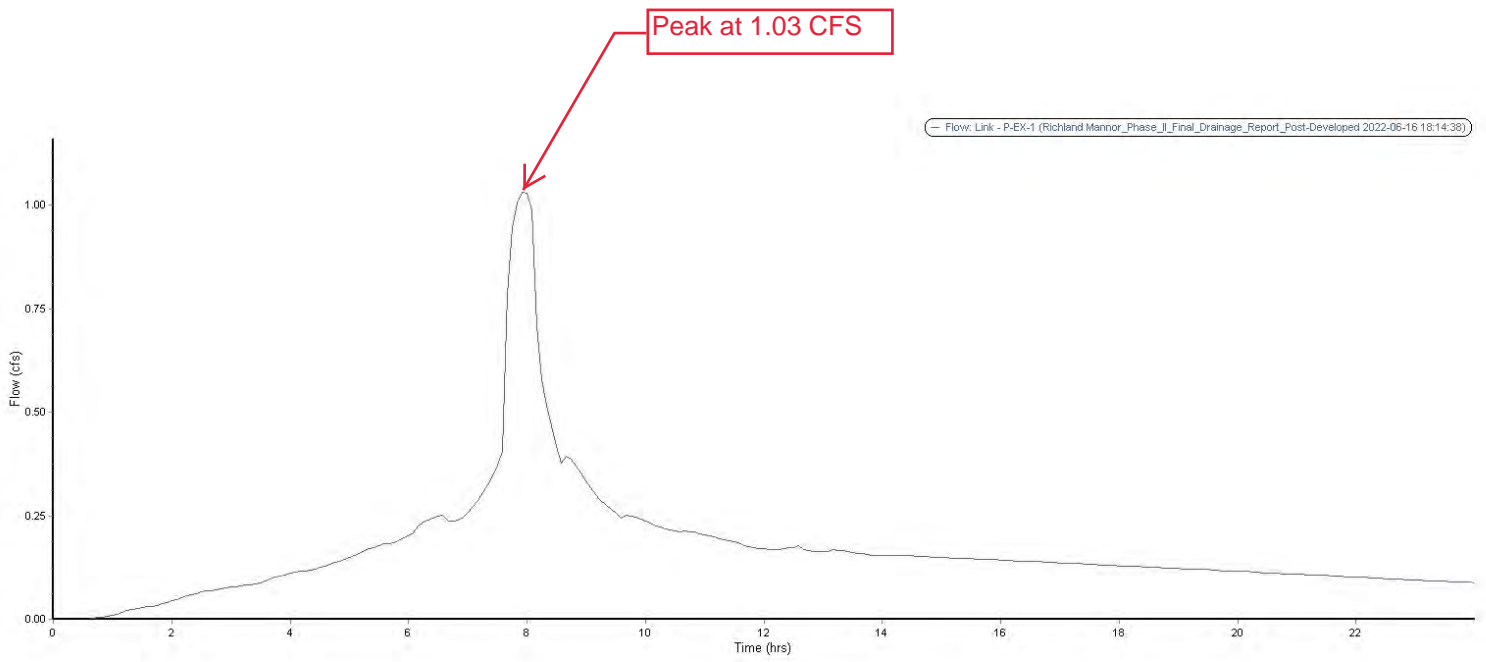
1/ An impermeable layer has a K<sub>sat</sub> less than 0.01 μm/s [0.0014 in/h] or a component restriction of fragipan; duripan; petrocalcic; orstein; petrogypsic; cemented horizon; densic material; placic; bedrock, paralithic; bedrock, lithic; bedrock, densic; or permafrost.

2/ High water table during any month during the year.

3/ Dual HSG classes are applied only for wet soils (water table less than 60 cm [24 in]). If these soils can be drained, a less restrictive HSG can be assigned, depending on the K<sub>sat</sub>.









March 23, 2020

Michael and William Heumann  
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**RE: Hillcrest Extension Subdivision – Draft Drainage Report**

To Whom It May Concern,

The following Drainage Plan has been prepared for the Richland Manor Subdivision in Juneau, AK, a proposed multi-phase major subdivision on a 30-acre site at 4506, 4508, and 4510 Hillcrest Avenue. This drainage report addresses the first phase of the overall subdivision that will create 14 new Lots and extend Hillcrest Avenue. The drainage report supplements the Richland Manor Subdivision – Drainage Report dated 10/31/19 and the Hooter Lane Phase I ROW Improvements – Drainage Report dated 1/23/20, attached in Appendix H, by providing an in-depth analysis of the improvements specific to this phase of the development. Improvements include extending Hillcrest Avenue by constructing new sidewalk, street, ditches, driveways and utilities along with building pads on the newly subdivided Lots. The 2010 CBJ Manual of Stormwater Best Management Practices was used to evaluate if the proposed and existing drainage features could convey runoff during the 25-year storm event.

Attachments to this report include sheets depicting survey data, proposed ROW improvements, as-built information, calculations and rainfall data used for the drainage analysis.

**Site Runoff Calculation Method:**

A total of three catchment areas were analyzed representing the existing and proposed drainage conveyance systems relevant to the project. The catchment areas include: the predeveloped subdivision labeled on the drainage map as Drainage Basin A, the post developed subdivision labeled on the drainage map as Drainage Basin C and, the post developed subdivision labeled on the drainage map as Drainage Basin D. The three catchment areas were determined using the proposed design model, Lidar data and aerial photos in AutoCAD C3D and were verified by several site visits. A delineation of the catchment areas can be found in Appendix A.

To calculate the site runoff for Drainage Basin D we have elected to use the Rational Method. The Rational Method is most appropriate for evaluating drainage basins less than 10 acres. Appendix D of the "2010 CBJ Manual of



Stormwater Best Management Practices” was utilized as a guide<sup>1</sup>. The calculations and supporting documentation can be found in Appendix B, C, D & E of this Report.

To calculate the site runoff for Drainage Basin A and C we have elected to use the SCS Unit Hydrograph Method. The SCS Unit Hydrograph Method is most appropriate for evaluating drainage basins of 10 acres to 1,300 acres. Appendix D of the “2010 CBJ Manual of Stormwater Best Management Practices” was utilized as a guide<sup>2</sup>. The calculations and supporting documentation can be found in Appendix B, C, D & F of this Report.

**Anticipated Site Runoff (Q):**

Using the Rational Method and SCS Unit Hydrograph Method, the amount of stormwater runoff during the 25-year storm event per catchment area was determined. The analysis shows that approximately 1.13 cfs will be removed from the discharge point due to the proposed development. See Table 1.1 below for results, the calculations can be found in Appendix E &F.

Catchment Area	Q (cfs)
Drainage Basin A	<b>6.71</b>
Drainage Basin C	<b>5.58</b>
Drainage Basin D	<b>1.90</b>
<b>Table 1.1</b>	

**Conveyance/Discharge Structure Capacities:**

The capacity of the existing and proposed drainage systems was calculated using the Manning’s Equation to determine if proposed 25-year storm event flows could be conveyed. The most vulnerable drainage structures to failure along the analyzed flow path were evaluated. See Table 1.2 below for results, the calculations can be found in Appendix F.

Catchment Area	Q (cfs)
Existing 18” CPP Culvert (P-7)	<b>7.02</b>
Existing Driveway Ditch Hooter LN	<b>10.58</b>
<b>Table 1.2</b>	

<sup>1</sup> There are no current municipal code requirements dictating adherence with the “2010 CBJ Manual of Stormwater Best Management Practices” when preparing a drainage plan that complies with 49.35.510. Regardless, we have elected to utilize portions of this Manual as a guide in the preparation of this Drainage Plan for the proposed development.

<sup>2</sup> There are no current municipal code requirements dictating adherence with the “2010 CBJ Manual of Stormwater Best Management Practices” when preparing a drainage plan that complies with 49.35.510. Regardless, we have elected to utilize portions of this Manual as a guide in the preparation of this Drainage Plan for the proposed development.





**Summary:**

Table 1.3 below compares anticipated 25-year runoff in the proposed and existing conveyance systems to their available hydraulic capacity. Runoff from the entire drainage basin was used for comparison even though in some cases the conveyance system would not need to handle the entire runoff making the comparison a conservative evaluation.

Drainage Basin	Anticipated Runoff Q (cfs)	Capacity Check	Available Capacity Q (cfs)
Proposed 18" CPP Culvert (P-7)	5.58	<	7.02
Existing Driveway Ditch Hooter LN	1.90	<	10.58

**Table 1.3**

Our analysis shows that there is enough capacity in the existing and proposed drainage structures to handle flows from the altered drainage patterns as a result of the proposed Hooter Lane Phase I ROW improvements.

Respectfully,

Lucas Chambers, P.E.  
Principal Engineer – proHNS LLC Juneau

Appendixes:

- A – Catchment Areas
- B – Runoff Coefficient
- C – Time of Concentration
- D – Rainfall Intensity
- E – Rational Method
- F – SCS Hydrograph
- G- Existing Capacity Calcs
- H – Prior Drainage Reports "Richland Manor Subdivision – Drainage Report dated 10/31/19, Hooter Lane Phase I ROW Improvements – Drainage Report dated 1/23/20"

# **Appendix A**

## **Catchment Areas**

# HILLCREST EXTENSION SUBDIVISION DRAINAGE MAP JUNEAU, AK

PREPARED FOR:  
MICHAEL & WILLIAM HEUMANN

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	PREDEVELOPED DRAINAGE BASIN CATCHMENT AREAS
3	DEVELOPED DRAINAGE BASIN CATCHMENT AREAS



**PROJECT LOCATION MAP**  
NTS



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: C. BYDLON  
DESIGNED BY: L. CHAMBERS  
CHECKED BY: L. CHAMBERS  
1945 ALEX HOLDEN WAY #101  
JUNEAU, AK 99801  
solutions@proHNS.com  
www.proHNS.com

HILLCREST EXTENSION  
SUBDIVISION  
WILLIAM & MICHAEL HUMEANN

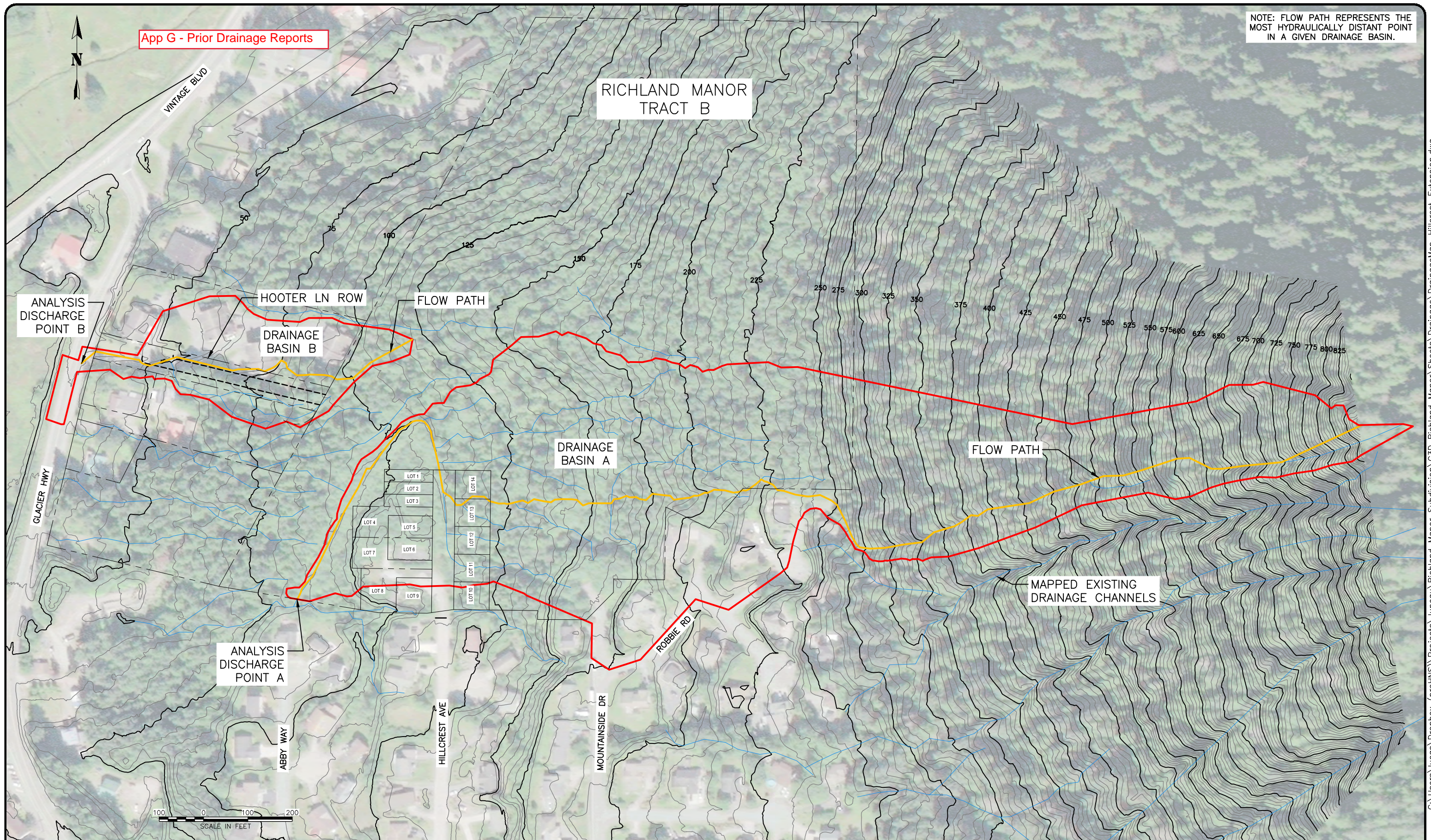
COVER SHEET

SHEET NUMBER
1
OF
3




App G - Prior Drainage Reports

NOTE: FLOW PATH REPRESENTS THE MOST HYDRAULICALLY DISTANT POINT IN A GIVEN DRAINAGE BASIN.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



**proHNS LLC**  
 CERTIFICATE OF AUTHORIZATION #100662  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 solutions@proHNS.com  
 www.proHNS.com

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

**HILLCREST EXTENSION  
 SUBDIVISION**  
 WILLIAM & MICHAEL HUMEANN

**PREDEVELOPED  
 DRAINAGE BASIN  
 CATCHMENT AREAS**

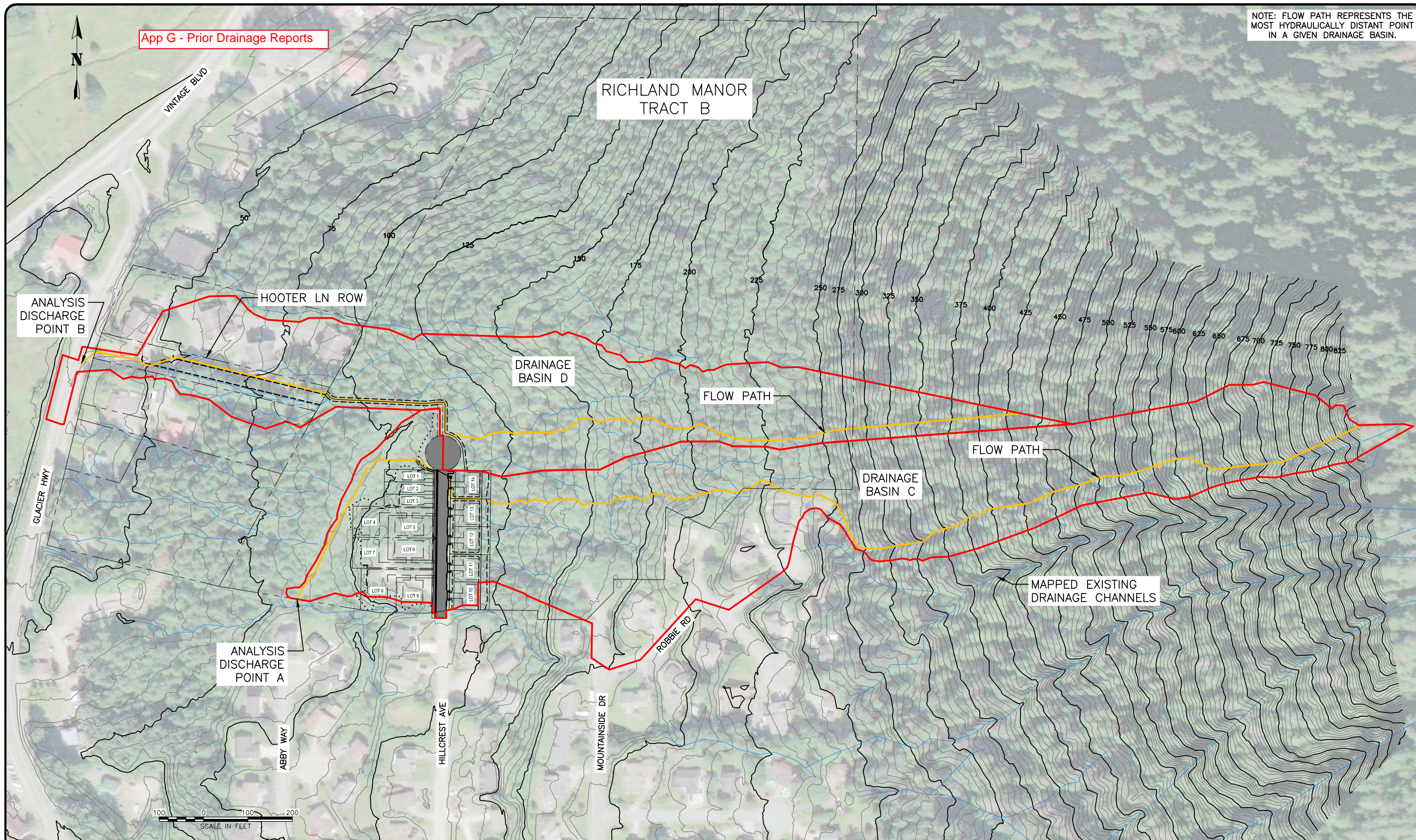
SHEET NUMBER  
**2**  
 OF  
**3**

C:\Users\lucas\Dropbox (proHNS)\Projects\Juneau\Richland Manor Subdivision\C3D Richland Manor\Sheets\Drainage\DrainageMap\_Hillcrest\_Extension.dwg March 23, 2020



NOTE: FLOW PATH REPRESENTS THE MOST HYDRAULICALLY DISTANT POINT IN A GIVEN DRAINAGE BASIN.

App G - Prior Drainage Reports



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: C. BYDLON  
 DESIGNED BY: L. CHAMBERS  
 CHECKED BY: L. CHAMBERS  
 1945 ALEX HOLDEN WAY #101  
 JUNEAU, AK 99801  
 solutions@proHNS.com  
 www.proHNS.com

HILLCREST EXTENSION  
 SUBDIVISION  
 WILLIAM & MICHAEL HUMEANN

DEVELOPED  
 DRAINAGE BASIN  
 CATCHMENT AREAS


SHEET NUMBER	3
OF	3



# **Appendix B**

# **Runoff Coefficient**


**SCS Curve Number Hillcrest Extension Predeveloped**

<b>Project:</b>	Hillcrest Ext Subdivision Drainage Analysis, PAC2018 0054		
<b>Owner:</b>	Michael and William Heumann		
<b>Date:</b>	3/21/2020		
<b>Prepared By:</b>	Chris Bydlon		
<b>Checked By:</b>	Lucas Chambers		

<b>Total Basin Area(SQFT)=</b>	<b>867827</b>					
<b>Surface Type</b>	<b>Location</b>	<b>Area (SQFT)</b>	<b>Total (SQFT)</b>	<b>Total (Acre)</b>	<b>% Overall Basin</b>	<b>Unit Hydrograph CN*</b>
Pavement	Mountianside/ Robbie Rd	23565				
			23565	0.540977961	2.72%	98
Building Roofs	Robbie Rd Homes	14048				
			14048	0.322497704	1.62%	98
Gravel	Existing Hillcrest Pads	10824				
			10824	0.248484848	1.25%	89
Lawns	Robbie Rd Homes	14230				
			14230	0.326675849	1.64%	74
Woods	Every where else	805160				
			805160	18.48393021	92.78%	70
		Total=	867827	19.92256657	100.00%	<b>71.52</b>

\*Unit Hydrograph curve numbers were developed from Table D-6 & D-7 of the CBJ Manual of Stormwater BMP Manual. NRCS's online GIS database does not have data for the project location. I looked at adjacent areas with similar slopes and ground cover and the hydraulic soil group was C or D. For this analysis I am assuming the project location falls under soil group C.

**SCS Curve Number Proposed Hillcrest Ext. Subdivision**


<b>Project:</b>	Hillcrest Ext. Subdivision Drainage Analysis, PAC2018 0054		
<b>Owner:</b>	Michael and William Heumann		
<b>Date:</b>	3/21/2020		
<b>Prepared By:</b>	Chris Bydlon		
<b>Checked By:</b>	Lucas Chambers		

Surface Type	Location	Area (SQFT)	Total (SQFT)	Total (Acre)	% Overall Basin	Unit Hydrograph CN*
<b>Total Basin Area(SQFT)= 642649</b>						
Pavement	Hillcrest Extension	12788				
	Mountianside/ Robbie Rd	23565				
			36353	0.834550046	5.66%	98
Building Roofs	Lot 1 Roof +Deck	988				
*Areas from Developer	Lot 2 Roof +Deck	988				
	Lot 3 Roof +Deck	988				
	Lot 4 Roof +Deck	1350				
	Lot 5 Roof +Deck	1350				
	Lot 6 Roof +Deck	1350				
	Lot 7 Roof +Deck	1350				
	Lot 8 Roof +Deck	1350				
	Lot 9 Roof +Deck	1350				
	Lot 10 Roof +Deck	1350				
	Lot 11 Roof+Deck	1350				
	Lot 12 Roof+Deck	1350				
	Lot 13 Roof+Deck	1350				
	Lot 14 Roof+Deck	1350				
	Robbie Rd Homes	14048				
			31862	0.731450872	4.96%	98
Gravel	Driveways & Ditches	19536				
	Building Pad Lot 4	690				
	Building Pad Lot 5	1250				
	Building Pad Lot 6	1250				
	Building Pad Lot 7	690				
	Building Pad Lot 8	900				
	Building Pad Lot 9	900				
	Building Pad Lot 10	315				
	Building Pad Lot 11	315				
	Building Pad Lot 12	315				
	Building Pad Lot 13	315				
	Building Pad Lot 14	315				
			26791	0.615036731	4.17%	89
Lawns	Robbie Rd Homes	14230				
	Lot 1-14 Lawns & Fill Slopes	27815				
			42045	0.965220386	6.54%	74
Woods	Every where else	505598				
			505598	11.60693297	78.67%	70
		Total=	642649	14.753191	100.00%	<b>74.03</b>

\*Unit Hydrograph curve numbers were developed from Table D-6 & D-7 of the CBJ Manual of Stormwater BMP Manual. NRCS's online GIS database does not have data for the project location. I looked at adjacent areas with similar slopes and ground cover and the hydraulic soil group was C or D. For this analysis I am assuming the project location falls under soil group C.



**Runoff Coefficient Basin B Developed**

<b>Project:</b>	Hillcrest Extension Drainage Analysis, PAC2018 0054		
<b>Owner:</b>	Michael and William Heumann		
<b>Date:</b>	3/17/2020		
<b>Prepared By:</b>	C. Bydlon		
<b>Checked By:</b>	L. Chambers		

<b>Total Basin Area(SQFT)=</b>		<b>400337</b>				
<b>Surface Type</b>	<b>Location</b>	<b>Area (SQFT)</b>	<b>Total (SQFT)</b>	<b>Total (Acre)</b>	<b>% Overall Basin</b>	<b>Runoff Coefficient</b>
Pavement	Tamarack Trails Condos	24950				
			24950	0.572773186	6.23%	0.9
Building Roofs	Tamarack Trail Condos	15130				
			15130	0.347337006	3.78%	0.9
Lawns	Tamarack Trails	6690				
			6690	0.153581267	1.67%	0.25
Shot Rock Base & Ditch	Hooter Lane ROW	21355				
			21355	0.490243343	5.33%	0.8
Woods	Every where else	332212				
			332212	7.626538108	82.98%	0.1
		Total=	400337	9.190472911	100.00%	<b>0.22</b>

# **Appendix C**

## **Time of Concentration**

SCS TR-55 Time of Concentration Computations Report

Sheet Flow Equation

$$T_c = (0.007 * ((n * L_f)^{0.8})) / ((P^{0.5}) * (S_f^{0.4}))$$

Where:

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

Shallow Concentrated Flow Equation

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

Where:

- Tc = Time of Concentration (hrs)
- Lf = Flow Length (ft)
- V = Velocity (ft/sec)
- Sf = Slope (ft/ft)

Channel Flow Equation

- V = (1.49 \* (R<sup>(2/3)</sup>) \* (Sf<sup>0.5</sup>)) / n
- R = Aq / Wp
- Tc = (Lf / V) / (3600 sec/hr)

Where:

- Tc = Time of Concentration (hrs)

Lf = Flow Length (ft)  
 R = Hydraulic Radius (ft)  
 Aq = Flow Area (ft<sup>2</sup>)  
 Wp = Wetted Perimeter (ft)  
 V = Velocity (ft/sec)  
 Sf = Slope (ft/ft)  
 n = Manning's Roughness

=====  
 Subbasin PhaseAPreDevelop  
 =====

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
-			
Manning's Roughness:	.8	0.00	0.00
Flow Length (ft):	188	0.00	0.00
Slope (%):	79.80	0.00	0.00
2 yr, 24 hr Rainfall (in):	2.97	0.00	0.00
Velocity (ft/sec):	0.21	0.00	0.00
Computed Flow Time (minutes):	14.72	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
-			
Flow Length (ft):	2046	0.00	0.00
Slope (%):	29.86	0.00	0.00
Surface Type:	Forest	Unpaved	Unpaved
Velocity (ft/sec):	1.37	0.00	0.00
Computed Flow Time (minutes):	24.89	0.00	0.00

Channel Flow Computations

	Subarea A	Subarea B	Subarea C
-			
Manning's Roughness:	.05	0.00	0.00
Flow Length (ft):	715	0.00	0.00
Channel Slope (%):	3.48	0.00	0.00
Cross Section Area (ft <sup>2</sup> ):	13	0.00	0.00
Wetted Perimeter (ft):	11.4	0.00	0.00
Velocity (ft/sec):	6.07	0.00	0.00
Computed Flow Time (minutes):	1.96	0.00	0.00

=====  
**Total TOC (minutes):**                      **41.57**  
 =====



SCS TR-55 Time of Concentration Computations Report

Sheet Flow Equation

$$T_c = (0.007 * ((n * L_f)^{0.8})) / ((P^{0.5}) * (S_f^{0.4}))$$

Where:

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

Shallow Concentrated Flow Equation

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

Where:

- Tc = Time of Concentration (hrs)
- Lf = Flow Length (ft)
- V = Velocity (ft/sec)
- Sf = Slope (ft/ft)

Channel Flow Equation

- V = (1.49 \* (R<sup>(2/3)</sup>) \* (Sf<sup>0.5</sup>)) / n
- R = Aq / Wp
- Tc = (Lf / V) / (3600 sec/hr)

Where:

- Tc = Time of Concentration (hrs)

Lf = Flow Length (ft)  
 R = Hydraulic Radius (ft)  
 Aq = Flow Area (ft<sup>2</sup>)  
 Wp = Wetted Perimeter (ft)  
 V = Velocity (ft/sec)  
 Sf = Slope (ft/ft)  
 n = Manning's Roughness

=====  
 Subbasin HillcrestExtPostDevelemonet  
 =====

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	.8	0.00	0.00
Flow Length (ft):	188	0.00	0.00
Slope (%):	79.8	0.00	0.00
2 yr, 24 hr Rainfall (in):	2.97	0.00	0.00
Velocity (ft/sec):	0.21	0.00	0.00
Computed Flow Time (minutes):	14.72	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
Flow Length (ft):	1977	0.00	0.00
Slope (%):	30.65	0.00	0.00
Surface Type:	Forest	Unpaved	Unpaved
Velocity (ft/sec):	1.38	0.00	0.00
Computed Flow Time (minutes):	23.88	0.00	0.00

Channel Flow Computations

	Subarea A	Subarea B	Subarea C
Manning's Roughness:	.035	.015	.035
Flow Length (ft):	91.6	82	489
Channel Slope (%):	6.10	1.22	5.32
Cross Section Area (ft <sup>2</sup> ):	3.0	1.77	1.74
Wetted Perimeter (ft):	5.47	4.71	4.59
Velocity (ft/sec):	7.04	5.71	5.14
Computed Flow Time (minutes):	0.22	0.24	1.58

=====  
**Total TOC (minutes):**                   **40.64**  
 =====

# HILLCREST EXT/ HOOTER LANE POST DEVELOPED TOC

SCS TR-55 Time of Concentration Computations Report

Sheet Flow Equation

$$T_c = (0.007 * ((n * L_f)^{0.8})) / ((P^{0.5}) * (S_f^{0.4}))$$

Where:

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

Shallow Concentrated Flow Equation

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

Where:

- Tc = Time of Concentration (hrs)
- Lf = Flow Length (ft)
- V = Velocity (ft/sec)
- Sf = Slope (ft/ft)

Channel Flow Equation

- V = (1.49 \* (R<sup>(2/3)</sup>) \* (Sf<sup>0.5</sup>)) / n
- R = Aq / Wp
- Tc = (Lf / V) / (3600 sec/hr)

Where:

- Tc = Time of Concentration (hrs)

# HILLCREST EXT/ HOOTER LANE POST DEVELOPED TOC

Lf = Flow Length (ft)  
 R = Hydraulic Radius (ft)  
 Aq = Flow Area (ft<sup>2</sup>)  
 Wp = Wetted Perimeter (ft)  
 V = Velocity (ft/sec)  
 Sf = Slope (ft/ft)  
 n = Manning's Roughness

=====  
 Subbasin HillcrestHooter  
 =====

Sheet Flow Computations

	Subarea A	Subarea B	Subarea C
-			
Manning's Roughness:	.8	0.00	0.00
Flow Length (ft):	234	0.00	0.00
Slope (%):	37.2	0.00	0.00
2 yr, 24 hr Rainfall (in):	2.97	0.00	0.00
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	23.80	0.00	0.00

Shallow Concentrated Flow Computations

	Subarea A	Subarea B	Subarea C
-			
Flow Length (ft):	1098	0.00	0.00
Slope (%):	21.54	0.00	0.00
Surface Type:	Forest	Unpaved	Unpaved
Velocity (ft/sec):	1.16	0.00	0.00
Computed Flow Time (minutes):	15.78	0.00	0.00

Channel Flow Computations

	Subarea A	Subarea B	Subarea C
-			
Manning's Roughness:	.035	.035	.03
Flow Length (ft):	361	439.5	141
Channel Slope (%):	5.7	11.37	7.8
Cross Section Area (ft <sup>2</sup> ):	6	2	3.42
Wetted Perimeter (ft):	7.71	5.6	6.12
Velocity (ft/sec):	8.60	7.23	9.41
Computed Flow Time (minutes):	0.70	1.01	0.25

=====  
**Total TOC (minutes):**                   **41.53**  
 =====



# Appendix D

## Rainfall Intensity



NOAA Atlas 14, Volume 7, Version 2  
 Location name: Juneau, Alaska, USA\*  
 Latitude: 58.3454°, Longitude: -134.4896°  
 Elevation: 120.33 ft\*\*  
 \* source: ESRI Maps  
 \*\* source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

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

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

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

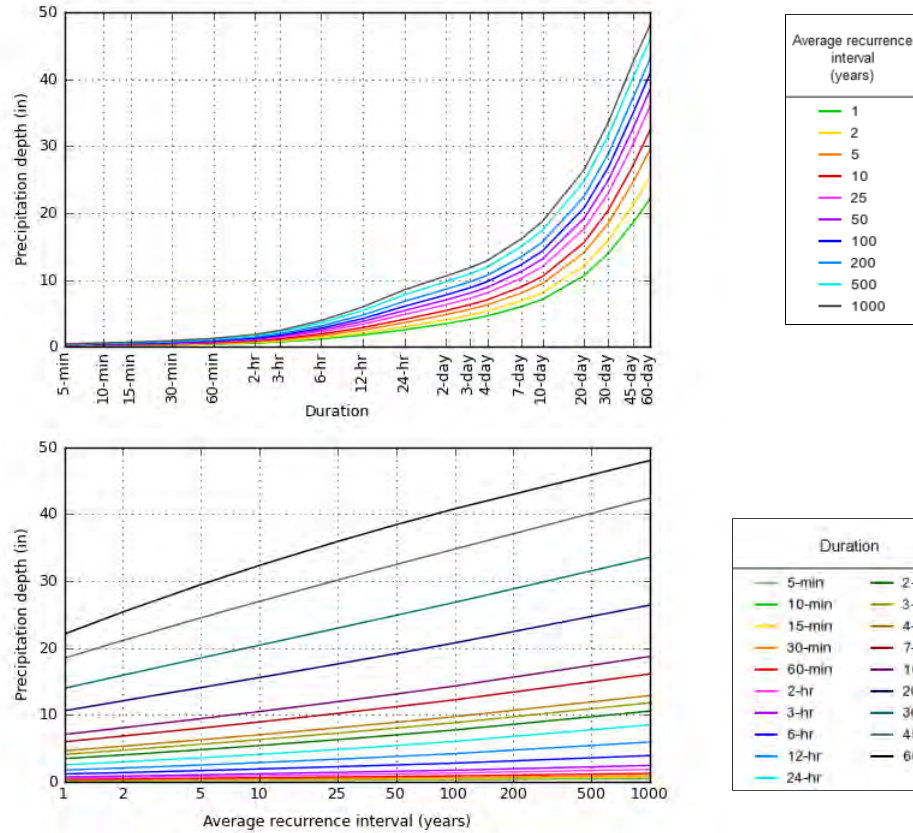
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.131 (0.106-0.166)	0.153 (0.122-0.197)	0.187 (0.146-0.246)	0.215 (0.165-0.287)	0.253 (0.189-0.346)	0.282 (0.207-0.393)	0.312 (0.225-0.442)	0.350 (0.248-0.505)	0.400 (0.277-0.590)	0.438 (0.299-0.657)
10-min	0.176 (0.142-0.223)	0.206 (0.164-0.265)	0.251 (0.195-0.330)	0.288 (0.220-0.385)	0.339 (0.253-0.464)	0.379 (0.278-0.528)	0.418 (0.302-0.592)	0.470 (0.333-0.678)	0.537 (0.372-0.792)	0.588 (0.401-0.882)
15-min	0.206 (0.166-0.261)	0.241 (0.192-0.310)	0.293 (0.228-0.385)	0.337 (0.258-0.450)	0.397 (0.297-0.543)	0.443 (0.325-0.617)	0.490 (0.353-0.694)	0.549 (0.389-0.791)	0.629 (0.436-0.927)	0.689 (0.470-1.03)
30-min	0.273 (0.220-0.346)	0.320 (0.255-0.411)	0.389 (0.303-0.511)	0.447 (0.342-0.597)	0.527 (0.394-0.721)	0.588 (0.432-0.819)	0.650 (0.469-0.921)	0.729 (0.517-1.05)	0.834 (0.578-1.23)	0.914 (0.623-1.37)
60-min	0.374 (0.302-0.474)	0.438 (0.349-0.563)	0.533 (0.415-0.700)	0.613 (0.469-0.819)	0.722 (0.539-0.988)	0.806 (0.592-1.12)	0.890 (0.642-1.26)	0.999 (0.708-1.44)	1.14 (0.792-1.69)	1.25 (0.853-1.88)
2-hr	0.552 (0.445-0.700)	0.647 (0.515-0.832)	0.789 (0.614-1.04)	0.906 (0.693-1.21)	1.07 (0.798-1.46)	1.19 (0.875-1.66)	1.32 (0.949-1.86)	1.48 (1.05-2.13)	1.69 (1.17-2.49)	1.85 (1.26-2.77)
3-hr	0.729 (0.588-0.925)	0.854 (0.680-1.10)	1.04 (0.811-1.37)	1.20 (0.915-1.60)	1.41 (1.05-1.93)	1.57 (1.15-2.19)	1.73 (1.25-2.46)	1.95 (1.38-2.81)	2.23 (1.54-3.29)	2.44 (1.66-3.66)
6-hr	1.17 (0.944-1.48)	1.37 (1.09-1.76)	1.67 (1.30-2.19)	1.92 (1.47-2.56)	2.26 (1.69-3.09)	2.52 (1.85-3.51)	2.78 (2.01-3.94)	3.13 (2.22-4.51)	3.58 (2.48-5.27)	3.92 (2.67-5.88)
12-hr	1.76 (1.42-2.23)	2.06 (1.64-2.65)	2.50 (1.95-3.29)	2.87 (2.19-3.83)	3.38 (2.53-4.62)	3.79 (2.78-5.27)	4.21 (3.04-5.96)	4.73 (3.35-6.82)	5.42 (3.76-7.99)	5.94 (4.05-8.91)
24-hr	2.54 (2.30-2.84)	2.97 (2.65-3.37)	3.59 (3.14-4.16)	4.10 (3.52-4.83)	4.82 (4.05-5.81)	5.41 (4.46-6.64)	6.04 (4.90-7.54)	6.78 (5.41-8.61)	7.76 (6.05-10.1)	8.51 (6.52-11.2)
2-day	3.45 (3.12-3.87)	4.01 (3.58-4.55)	4.79 (4.19-5.55)	5.42 (4.65-6.38)	6.29 (5.28-7.59)	7.00 (5.77-8.59)	7.74 (6.28-9.66)	8.59 (6.85-10.9)	9.72 (7.57-12.6)	10.6 (8.10-13.9)
3-day	4.10 (3.70-4.58)	4.73 (4.22-5.36)	5.61 (4.90-6.49)	6.30 (5.41-7.42)	7.26 (6.09-8.75)	8.03 (6.62-9.85)	8.82 (7.15-11.0)	9.72 (7.75-12.3)	10.9 (8.51-14.2)	11.8 (9.06-15.6)
4-day	4.63 (4.18-5.18)	5.32 (4.75-6.04)	6.28 (5.49-7.27)	7.03 (6.04-8.28)	8.07 (6.77-9.72)	8.88 (7.33-10.9)	9.73 (7.89-12.1)	10.7 (8.51-13.6)	11.9 (9.30-15.5)	12.9 (9.87-17.0)
7-day	5.98 (5.40-6.69)	6.84 (6.10-7.75)	8.02 (7.00-9.28)	8.94 (7.68-10.5)	10.2 (8.57-12.3)	11.2 (9.25-13.8)	12.3 (9.93-15.3)	13.4 (10.7-17.0)	15.0 (11.7-19.4)	16.1 (12.4-21.3)
10-day	7.07 (6.39-7.92)	8.07 (7.20-9.15)	9.44 (8.24-10.9)	10.5 (9.02-12.4)	12.0 (10.0-14.4)	13.1 (10.8-16.1)	14.3 (11.6-17.8)	15.6 (12.5-19.8)	17.4 (13.6-22.6)	18.7 (14.4-24.7)
20-day	10.6 (9.59-11.9)	12.1 (10.8-13.7)	14.1 (12.3-16.3)	15.6 (13.4-18.3)	17.6 (14.8-21.2)	19.2 (15.8-23.5)	20.7 (16.8-25.9)	22.4 (17.9-28.5)	24.7 (19.3-32.1)	26.4 (20.2-34.8)
30-day	14.0 (12.6-15.6)	15.9 (14.2-18.1)	18.5 (16.2-21.4)	20.4 (17.5-24.0)	22.9 (19.3-27.7)	24.9 (20.5-30.5)	26.8 (21.7-33.4)	28.8 (23.0-36.6)	31.5 (24.6-40.9)	33.5 (25.7-44.2)
45-day	18.5 (16.7-20.7)	21.1 (18.8-23.9)	24.5 (21.4-28.4)	27.0 (23.2-31.8)	30.1 (25.3-36.3)	32.5 (26.8-39.8)	34.8 (28.2-43.4)	37.1 (29.5-47.1)	40.1 (31.3-52.0)	42.4 (32.5-55.9)
60-day	22.1 (19.9-24.7)	25.4 (22.6-28.8)	29.5 (25.7-34.1)	32.3 (27.8-38.1)	35.9 (30.1-43.3)	38.4 (31.7-47.1)	40.8 (33.1-50.9)	43.0 (34.2-54.5)	45.8 (35.7-59.5)	48.0 (36.8-63.4)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

PDS-based depth-duration-frequency (DDF) curves  
Latitude: 58.3454°, Longitude: -134.4896°



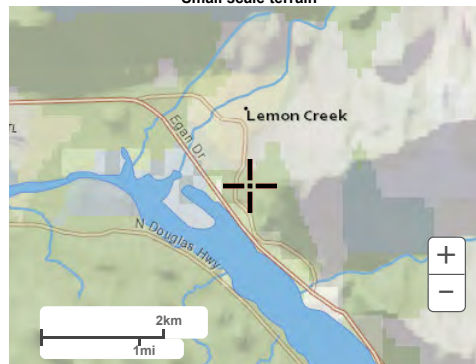
NOAA Atlas 14, Volume 7, Version 2

Created (GMT): Fri Oct 18 00:03:14 2019

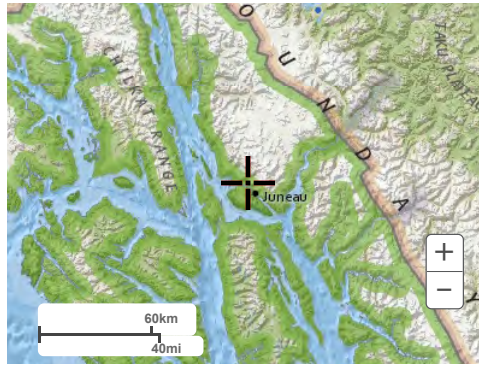
[Back to Top](#)

### Maps & aeriels

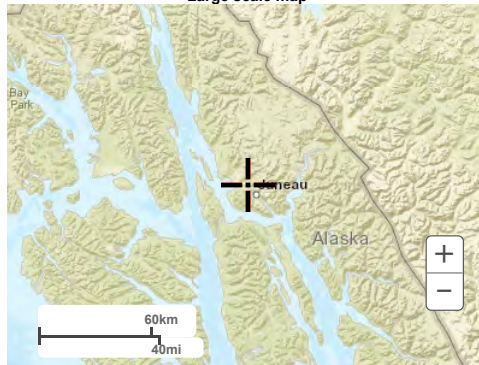
#### Small scale terrain



#### Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

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Precipitation Frequency Data Server



NOAA Atlas 14, Volume 7, Version 2  
 Location name: Juneau, Alaska, USA\*  
 Latitude: 58.346°, Longitude: -134.4904°  
 Elevation: 101.4 ft\*\*  
 \* source: ESRI Maps  
 \*\* source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

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

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

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.58 (1.27-2.02)	1.86 (1.48-2.40)	2.27 (1.75-3.00)	2.62 (1.99-3.52)	3.08 (2.29-4.25)	3.44 (2.51-4.82)	3.80 (2.72-5.42)	4.30 (3.02-6.23)	4.94 (3.41-7.33)	5.42 (3.67-8.17)
10-min	1.06 (0.852-1.36)	1.25 (0.984-1.61)	1.52 (1.18-2.02)	1.75 (1.33-2.35)	2.07 (1.54-2.85)	2.31 (1.69-3.23)	2.56 (1.83-3.64)	2.89 (2.03-4.18)	3.32 (2.29-4.92)	3.64 (2.47-5.49)
15-min	0.828 (0.664-1.06)	0.972 (0.768-1.26)	1.19 (0.920-1.57)	1.37 (1.04-1.84)	1.62 (1.20-2.22)	1.80 (1.32-2.53)	2.00 (1.43-2.84)	2.25 (1.59-3.26)	2.59 (1.78-3.84)	2.84 (1.93-4.29)
30-min	0.550 (0.440-0.702)	0.646 (0.510-0.836)	0.788 (0.610-1.04)	0.908 (0.690-1.22)	1.07 (0.796-1.47)	1.20 (0.874-1.68)	1.32 (0.950-1.89)	1.49 (1.05-2.17)	1.72 (1.18-2.54)	1.89 (1.28-2.84)
60-min	0.377 (0.302-0.481)	0.442 (0.349-0.571)	0.540 (0.418-0.713)	0.622 (0.473-0.836)	0.734 (0.545-1.01)	0.820 (0.598-1.15)	0.907 (0.650-1.29)	1.02 (0.721-1.48)	1.18 (0.810-1.74)	1.29 (0.875-1.95)
2-hr	0.278 (0.223-0.356)	0.326 (0.258-0.422)	0.399 (0.308-0.527)	0.460 (0.350-0.618)	0.543 (0.403-0.747)	0.606 (0.442-0.850)	0.670 (0.480-0.954)	0.756 (0.532-1.10)	0.869 (0.598-1.29)	0.954 (0.646-1.44)
3-hr	0.245 (0.196-0.312)	0.286 (0.226-0.370)	0.351 (0.271-0.463)	0.404 (0.307-0.543)	0.477 (0.354-0.657)	0.533 (0.389-0.746)	0.588 (0.422-0.838)	0.664 (0.468-0.962)	0.763 (0.525-1.13)	0.838 (0.568-1.26)
6-hr	0.197 (0.158-0.251)	0.231 (0.182-0.298)	0.282 (0.218-0.372)	0.324 (0.247-0.436)	0.383 (0.284-0.527)	0.428 (0.312-0.600)	0.473 (0.339-0.675)	0.534 (0.376-0.774)	0.614 (0.423-0.910)	0.675 (0.457-1.02)
12-hr	0.147 (0.118-0.188)	0.172 (0.136-0.223)	0.210 (0.162-0.277)	0.241 (0.183-0.323)	0.284 (0.211-0.391)	0.319 (0.233-0.447)	0.356 (0.255-0.507)	0.402 (0.283-0.582)	0.462 (0.318-0.686)	0.508 (0.344-0.767)
24-hr	0.107 (0.096-0.119)	0.125 (0.111-0.142)	0.151 (0.132-0.175)	0.172 (0.148-0.203)	0.203 (0.171-0.245)	0.229 (0.189-0.281)	0.256 (0.208-0.320)	0.289 (0.230-0.367)	0.332 (0.259-0.431)	0.365 (0.280-0.482)
2-day	0.073 (0.066-0.081)	0.084 (0.075-0.096)	0.101 (0.088-0.117)	0.114 (0.098-0.134)	0.133 (0.111-0.160)	0.148 (0.122-0.182)	0.164 (0.133-0.205)	0.183 (0.146-0.233)	0.209 (0.162-0.271)	0.227 (0.174-0.300)
3-day	0.057 (0.052-0.064)	0.066 (0.059-0.075)	0.079 (0.069-0.091)	0.088 (0.076-0.104)	0.102 (0.086-0.123)	0.113 (0.094-0.139)	0.125 (0.101-0.156)	0.139 (0.110-0.176)	0.156 (0.122-0.203)	0.170 (0.130-0.224)
4-day	0.049 (0.044-0.054)	0.056 (0.050-0.063)	0.066 (0.058-0.076)	0.074 (0.063-0.087)	0.085 (0.071-0.103)	0.094 (0.078-0.115)	0.103 (0.084-0.129)	0.114 (0.091-0.145)	0.128 (0.100-0.166)	0.139 (0.106-0.183)
7-day	0.035 (0.032-0.040)	0.040 (0.036-0.046)	0.047 (0.041-0.055)	0.053 (0.046-0.062)	0.061 (0.051-0.073)	0.067 (0.055-0.082)	0.074 (0.060-0.092)	0.081 (0.064-0.103)	0.091 (0.071-0.118)	0.098 (0.075-0.130)
10-day	0.029 (0.026-0.033)	0.033 (0.030-0.038)	0.039 (0.034-0.045)	0.043 (0.037-0.051)	0.049 (0.041-0.060)	0.054 (0.045-0.067)	0.060 (0.048-0.074)	0.066 (0.052-0.083)	0.073 (0.057-0.095)	0.079 (0.061-0.105)
20-day	0.022 (0.020-0.024)	0.025 (0.022-0.028)	0.029 (0.025-0.033)	0.032 (0.027-0.038)	0.036 (0.030-0.044)	0.040 (0.033-0.048)	0.043 (0.035-0.054)	0.047 (0.037-0.059)	0.052 (0.040-0.067)	0.056 (0.043-0.073)
30-day	0.019 (0.017-0.021)	0.022 (0.019-0.025)	0.025 (0.022-0.029)	0.028 (0.024-0.033)	0.031 (0.026-0.038)	0.034 (0.028-0.042)	0.037 (0.030-0.046)	0.040 (0.032-0.051)	0.044 (0.034-0.057)	0.047 (0.036-0.062)
45-day	0.017 (0.015-0.019)	0.019 (0.017-0.022)	0.022 (0.019-0.026)	0.025 (0.021-0.029)	0.028 (0.023-0.033)	0.030 (0.025-0.037)	0.032 (0.026-0.040)	0.034 (0.027-0.043)	0.037 (0.029-0.048)	0.039 (0.030-0.052)
60-day	0.015 (0.014-0.017)	0.017 (0.016-0.020)	0.020 (0.018-0.024)	0.022 (0.019-0.026)	0.025 (0.021-0.030)	0.027 (0.022-0.033)	0.028 (0.023-0.035)	0.030 (0.024-0.038)	0.032 (0.025-0.042)	0.034 (0.026-0.044)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.  
 Please refer to NOAA Atlas 14 document for more information.


[Back to Top](#)

PF graphical

# Appendix E

## Rational Method

Rational Method Site Runoff Drainage Basin D		
Project:	Hillcrest Extension Drainage Analysis, PAC2018 0054	
Owner:	Michael and William Heumann	
Date:	3/23/2020	
Prepared By:	L. Chambers	
Checked By:	G. Gladsjo	



$$Q = CIA$$

*Q* = peak flow in cubic feet per second (cfs)  
*C* = runoff coefficient  
*I* = rainfall intensity (inches per hour)  
*A* = catchment area (acres)

$$C_c = (C_1A_1 + C_2A_2)/A_t$$

*C<sub>c</sub>* = composite runoff coefficient  
*C<sub>1,2</sub>* = runoff coefficient for each area land cover type  
*A<sub>t</sub>* = total area (acres)  
*A<sub>1,2</sub>* = areas of land cover types (acres)  
**Cc = 0.22**, See Appendix C for calculation

$$T_c = T_1 + T_2 + \dots + T_n$$

*T<sub>c</sub>* = time of concentration (min)  
*T<sub>1,2</sub>* = travel time across separate flow path segments (min)  
**Tc = 41.51 min.**, See Appendix D for calculation

$$T_t = L/60V$$

*T<sub>t</sub>* = travel time (min)  
*L* = the distance of flow across a given segment (feet)  
*V* =  $k_R \text{ Sqrt}(S_0)$  = average velocity (feet/sec) across land cover  
*k<sub>R</sub>* = time of concentration velocity factor (CBJ Manual of Storm Water BMP 2010, Table D-5, PG. D-10)  
*S<sub>0</sub>* = slope of flow path (feet/feet)

Per CBJ Manual of Storm Water BMP 2010, Table 5-1, page. 5-1, design event frequencies are specified. For driveway culvert, a 25-year storm event is the required design return period. We will base our analysis on a 25-year design return period for all drainage structures and catchment areas. Per CBJ Manual of Storm Water BMP 2010, page. D-9, Basins with a time and concentration 10 minutes or less shall use the 10 minute intensity. Basins with a time of concentration greater than 10 minutes and less than 30 minutes shall interpolate between the 10 and 10 minute values. Rainfall intensity for the site was sourced from the NOAA Atlas 14, Point Precipitation Frequency Estimates, see Appendix E, and is summarized as follows:

		Design Return Period
	Tc 41.51(min)	25-year
<b>Interpolated Intensity (in/hr) =</b>		<b>0.94</b>

There is an existing 24" CMP culvert that drains into the existing Glacier Highway ditch system at the location where the new subdivision access will tie into the shoulder of the Highway. The area currently contributing runoff to this culvert was delineated in AutoCAD from aerial photos and 2013 Lidar Data provided by CBJ.

**A = 400337 sqft / 43,560 = 9.19 acres**

	<b>Cc</b>	<b>I</b>	<b>A</b>		
<b>Q (cfs)=</b>	0.22	0.94	9.19	=	<b>1.90</b>

# Appendix F

## SCS Hydrograph



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

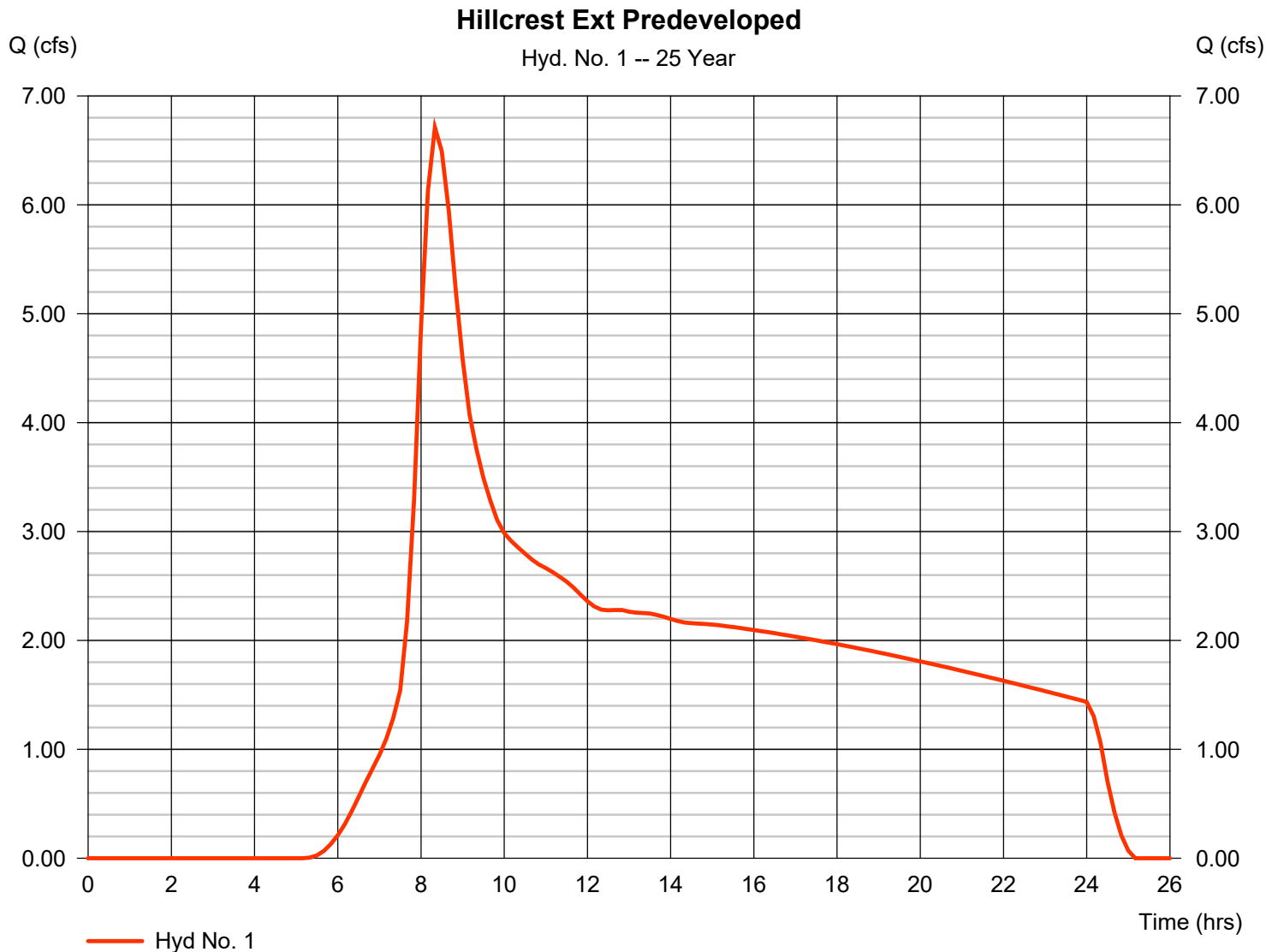
Saturday, 03 / 21 / 2020

## Hyd. No. 1

Hillcrest Ext Predeveloped Drainage Basin A

Hydrograph type	= SCS Runoff	<b>Peak discharge</b>	<b>= 6.711 cfs</b>
Storm frequency	= 25 yrs	Time to peak	= 8.33 hrs
Time interval	= 10 min	Hyd. volume	= 148,969 cuft
Drainage area	= 19.920 ac	Curve number	= 72*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 41.60 min
Total precip.	= 4.82 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

\* Composite (Area/CN) = [(0.540 x 98) + (0.320 x 98) + (0.250 x 89) + (0.330 x 74) + (18.480 x 70)] / 19.920



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Saturday, 03 / 21 / 2020

## Hyd. No. 3

Hillcrest Ext Post Develop Drainage Basin C

Hydrograph type	= SCS Runoff	<b>Peak discharge</b>	<b>= 5.576 cfs</b>
Storm frequency	= 25 yrs	Time to peak	= 8.33 hrs
Time interval	= 10 min	Hyd. volume	= 118,944 cuft
Drainage area	= 14.750 ac	Curve number	= 74*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 40.60 min
Total precip.	= 4.82 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484


\* Composite (Area/CN) = [(0.835 x 98) + (0.731 x 98) + (0.615 x 89) + (0.965 x 74) + (11.607 x 70)] / 14.750



# **Appendix G**

## **Existing Capacity**

Proposed 18" CPP Discharge Capacity		
<b>Project:</b>	Hillcrest Ext. Subdivision Drainage Analysis, PAC2018 0054	
<b>Owner:</b>	Michael and William Heumann	
<b>Date:</b>	3/23/2020	
<b>Prepared By:</b>	L. Chambers	
<b>Checked By:</b>	G. Gladsjo	



The following equations were used to calculate the proposed 18" CPP culvert P-7 acts as the driveway culvert to Lot 14 and is the first pipe in the proposed storm drain system and were obtained from "Urban Drainage Design Manual: Hydraulic Engineering Circular No. 22, Third Edition".

$$Q = (K/n) \times A \times R^{0.67} \times S^{0.5}$$

*Q = discharge rate in ft<sup>3</sup> /sec*

*K = coefficient for English units (1.486)*

*n = Manning's coefficient of roughness, obtained from Table 5-3, Page 5-5, of the CBJ Stormwater Manual*

*A = cross sectional area in ft<sup>2</sup>*

*R = hydraulic radius*


*S = slope*

Existing 18" Ditch Culvert; Inlet Invert =30.0', Outlet Invert =29.0', Length =40', n = 0.014. The Manning's n value of 0.014 was determined by the pipe type (CPP-smooth interior) Table 5-3.

<b>Q (cfs)</b>	<b>K</b>	<b>n</b>	<b>A</b>	<b>R</b>	<b>S</b>	=	
	1.486	0.014	1.77	0.375	0.0052		7.022094



Existing Driveway Ditch Discharge Capacity		
<b>Project:</b>	Hillcrest Ext. Subdivision Drainage Analysis, PAC2018 0054	
<b>Owner:</b>	Michael and William Heumann	
<b>Date:</b>	3/23/2020	
<b>Prepared By:</b>	L. Chambers	
<b>Checked By:</b>	G. Gladsjo	



The following equations were used to calculate the capacity of the driveway ditch leading into the 18" CPP at the bottom of the ditch run and were obtained from "Urban Drainage Design Manual: Hydraulic Engineering Circular No. 22, Third Edition".

$$Q = (K/n) \times A \times R^{0.67} \times S^{0.5}$$

*Q = discharge rate in ft<sup>3</sup>/sec*

*K = coefficient for English units (1.486)*

*n = Manning's coefficient of roughness, obtained from Table D-10, Page D-19, of the CBJ Stormwater Manual*

*A = cross sectional area in ft<sup>2</sup>, from survey basemap*

*R = hydraulic radius, from survey basemap*

*S = slope, from survey basemap*

Existing driveway ditch; Top Elev. = 37.0', Bottom Elev. = 30.0', Length = 80', n = 0.03. The Manning's n value of 0.03 comes from Table D-10 (grass, some weeds), elevation and length data are from survey basemap.

<b>Q (cfs)</b>	<b>K</b>	<b>n</b>	<b>A</b>	<b>R</b>	<b>S</b>	=	10.57569
	1.486	0.03	1.55	0.319588	0.0875		

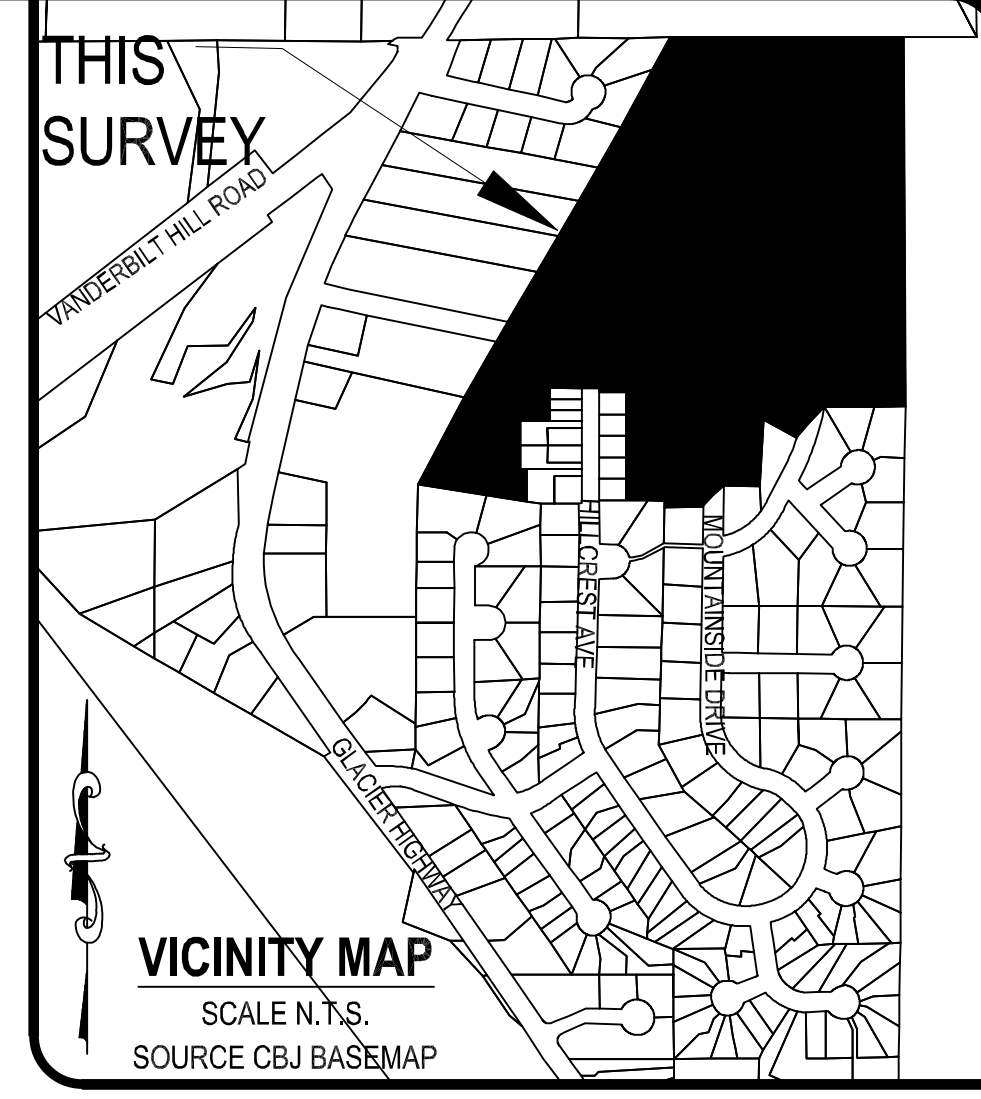
**BASIS OF BEARING:**

THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF S 89° 52'00" E AS DELINEATED ON THE OFFICIAL PLAT OF US SURVEY 4807 SUBDIVISION, APPROVED 23 MARCH 1965, BETWEEN FOUND PRIMARY MONUMENTS WHICH MARK CORNER 1 AND CORNER 2, US SURVEY 4807 AS SHOWN ON THIS PLAT.

LOT 2  
PLAT 91-9  
BASIS OF BEARING  
S 89° 52'00" E 726.81 (726.81)R3

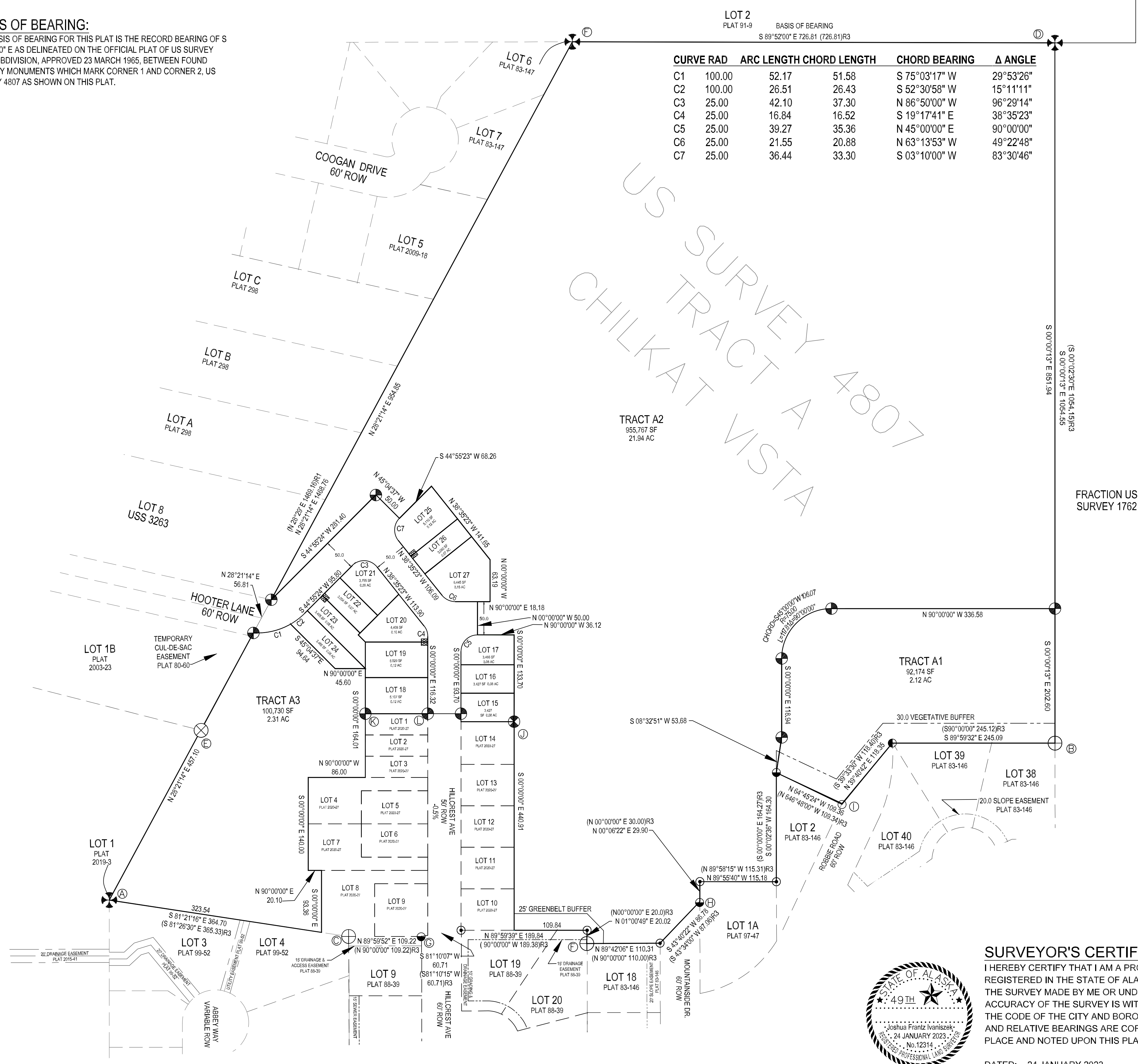
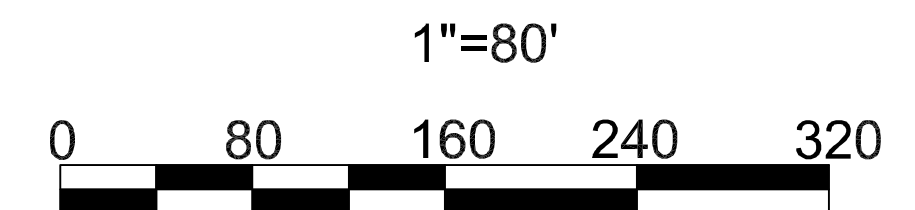
CURVE RAD	ARC LENGTH	CHORD LENGTH	CHORD BEARING	Δ ANGLE
C1	100.00	52.17	51.58	S 75°03'17" W 29°53'26"
C2	100.00	26.51	26.43	S 52°30'58" W 15°11'11"
C3	25.00	42.10	37.30	N 86°50'00" W 96°29'14"
C4	25.00	16.84	16.52	S 19°17'41" E 38°35'23"
C5	25.00	39.27	35.36	N 45°00'00" E 90°00'00"
C6	25.00	21.55	20.88	N 63°13'53" W 49°22'48"
C7	25.00	36.44	33.30	S 03°10'00" W 83°30'46"

US SURVEY 4807  
CHILKAT VISTA  
TRACT A2  
955,767 SF  
21.94 AC



**LEGEND:**

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- JW BEAN 3650-S PRIMARY MONUMENT RECOVERED
- CHILKAT SURVEYING PRIMARY MONUMENT ESTABLISHED
- CHILKAT SURVEYING PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- 6277-S SECONDARY MONUMENT RECOVERED
- 3650-S MONUMENT RECOVERED
- #5 REBAR RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- EASEMENT BOUNDARY
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47
- (S00°06'33"W)R4 RECORD INFORMATION FROM PLAT No. 2020-27
- ELECTRICAL EASEMENT ESTABLISHED THIS SURVEY



**SURVEYOR'S CERTIFICATE**

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



DATED: 24 JANUARY 2023

PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
SUBDIVISION OF  
TRACT A CHILKAT VISTAS SUBDIVISION  
A FRACTION OF US SURVEY 4807  
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT ANCHORAGE

**CHILKAT SURVEYING & MAPPING, LLC**  
10654 PORTER LANE JUNEAU, ALASKA 99801  
907-957-1908

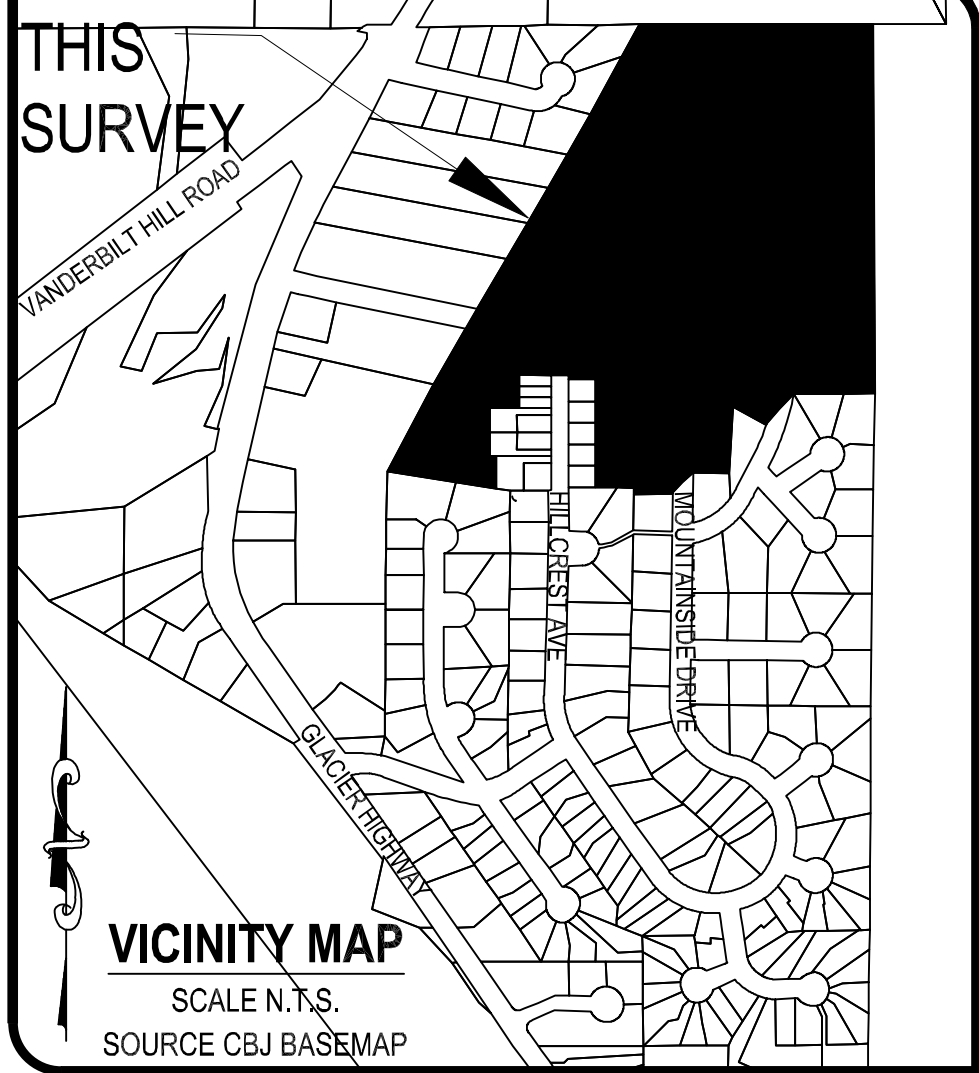
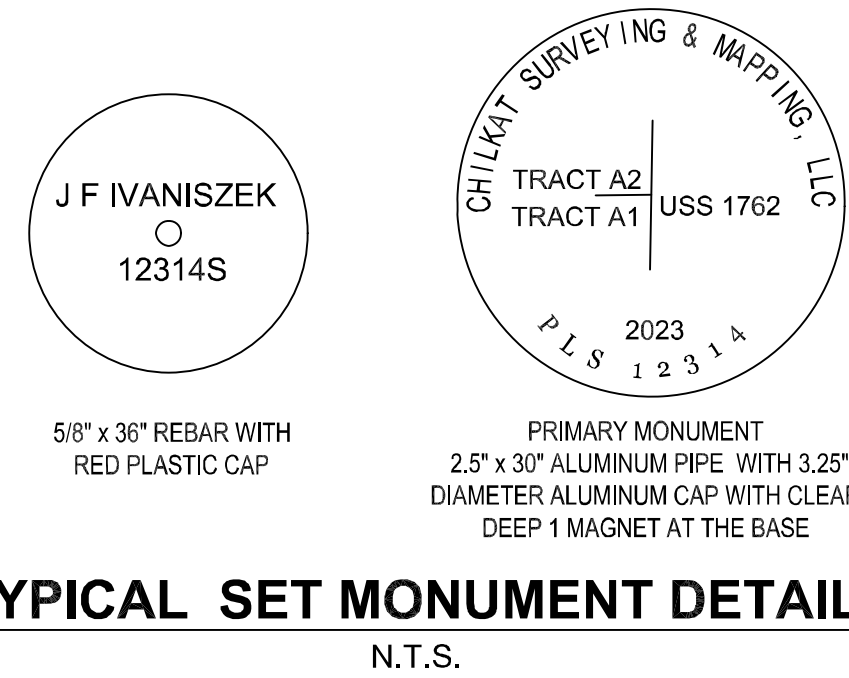
OWNERS  
WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
6000 THANE ROAD JUNEAU, ALASKA 99801

SMF: 2022-03    SCALE: 1" = 80'    DATE: 24 JANUARY 2023    SHEET NO. 1 OF 4

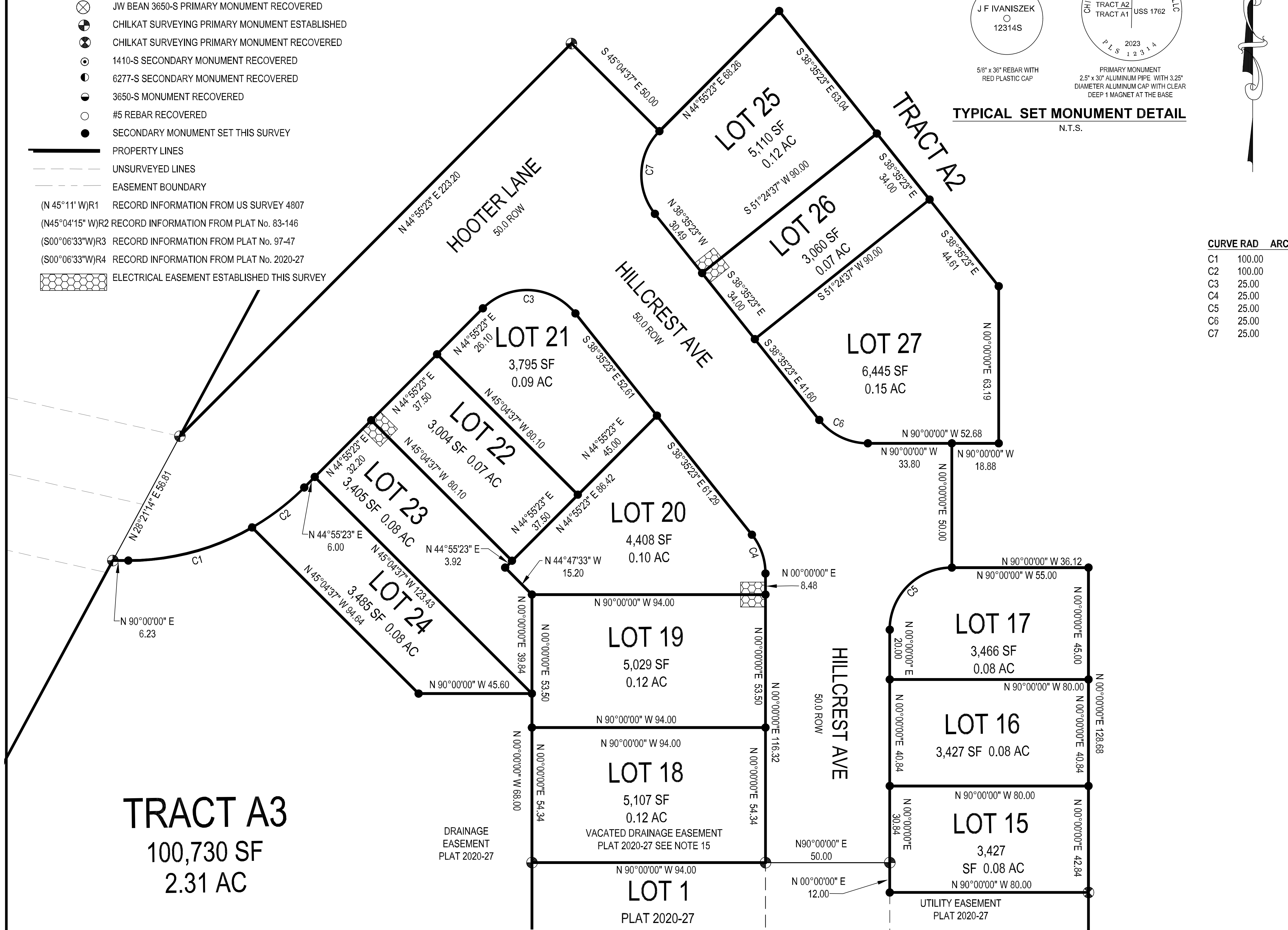


**LEGEND:**

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- R&M PRIMARY MONUMENT RECOVERED
- JW BEAN 3650-S PRIMARY MONUMENT RECOVERED
- CHILKAT SURVEYING PRIMARY MONUMENT ESTABLISHED
- CHILKAT SURVEYING PRIMARY MONUMENT RECOVERED
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- 6277-S SECONDARY MONUMENT RECOVERED
- 3650-S MONUMENT RECOVERED
- #5 REBAR RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- EASEMENT BOUNDARY
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- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
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- (S00°06'33"W)R4 RECORD INFORMATION FROM PLAT No. 2020-27
- ELECTRICAL EASEMENT ESTABLISHED THIS SURVEY



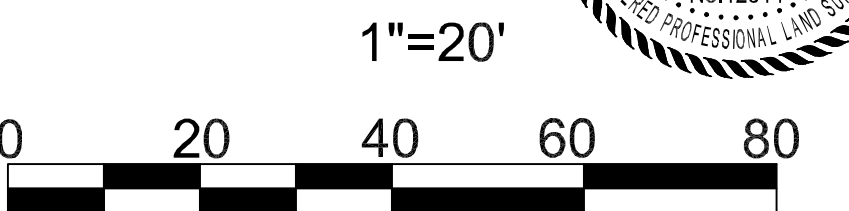
CURVE RAD	ARC LENGTH	CHORD LENGTH	CHORD BEARING	Δ ANGLE	
C1	100.00	52.17	51.58	S 75°03'17" W	29°53'26"
C2	100.00	26.51	26.43	S 52°30'58" W	15°11'11"
C3	25.00	42.10	37.30	N 86°50'00" W	96°29'14"
C4	25.00	16.84	16.52	S 19°17'41" E	38°35'23"
C5	25.00	39.27	35.36	N 45°00'00" E	90°00'00"
C6	25.00	21.55	20.88	N 63°13'53" W	49°22'48"
C7	25.00	36.44	33.30	S 03°10'00" W	83°30'46"



**SURVEYOR'S CERTIFICATE**

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

DATED: 23 JANUARY 2023



PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
 SUBDIVISION OF  
 TRACT A CHILKAT VISTAS SUBDIVISION  
 A FRACTION OF US SURVEY 4807  
 WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
 JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT ANCHORAGE

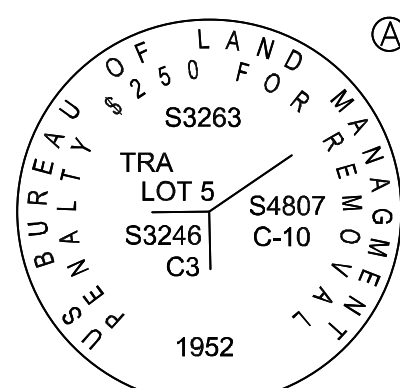
CHILKAT SURVEYING & MAPPING, LLC  
 10654 PORTER LANE JUNEAU, ALASKA 99801  
 907-957-1908

OWNERS  
 WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
 6000 THANE ROAD JUNEAU, ALASKA 99801

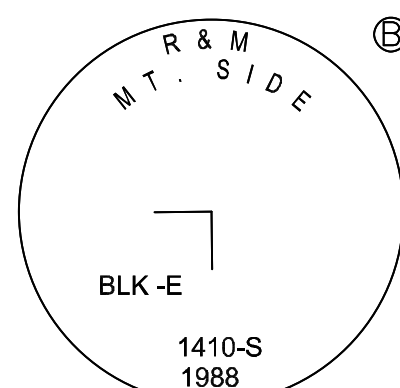
SMF: 2022-03    SCALE: 1" = 20'    DATE: 24 JANUARY 2023    SHEET NO. 2 OF 4

**FOUND MONUMENT DESCRIPTIONS:**

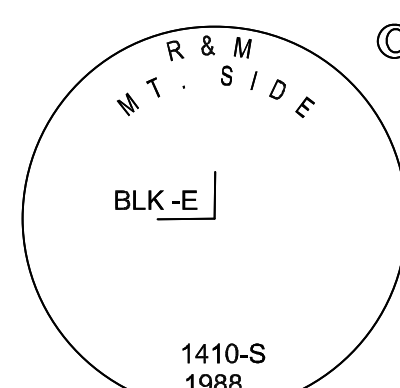
N.T.S.



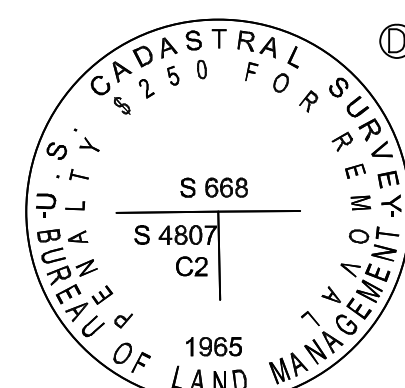
2.5" BRASS CAP MONUMENT



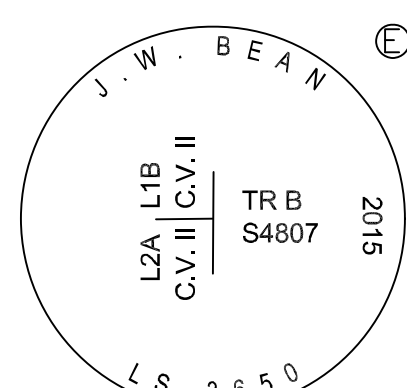
3.25" ALUMINUM CAP MONUMENT



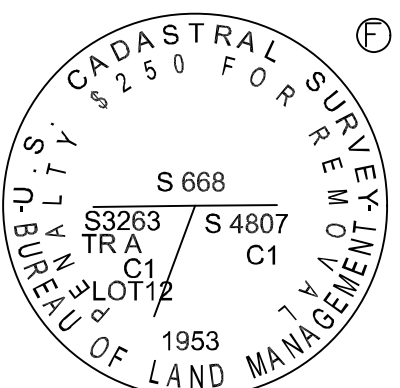
3.25" ALUMINUM CAP MONUMENT



2.5" BRASS CAP MONUMENT



3.25" ALUMINUM CAP MONUMENT FOUND J.W. BEAN MONUMENT S 61°38'46" E 0.37 FROM US SURVEY 4807 BOUNDARY MONUMENT NOT ACCEPTED

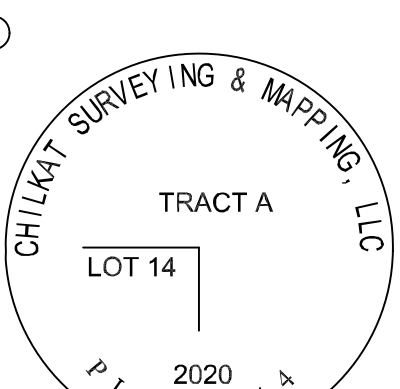


2.5" BRASS CAP MONUMENT

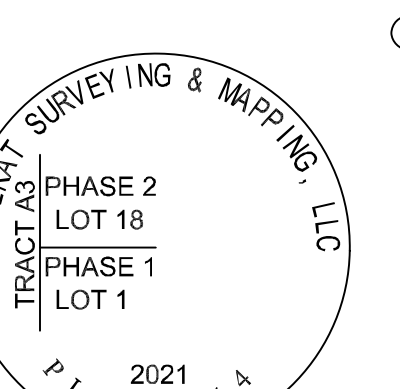
FOUND J.W. BEAN REBAR MONUMENT S 01°34'23" W 0.62 FROM CORNER LOCATION MONUMENT NOT ACCEPTED NO RECORD FOUND ON FILE WITH ALASKA DNR

FOUND JW BEAN REBAR S 11°57'46" W 1.60 FROM CORNER LOCATION MONUMENT NOT ACCEPTED NO RECORD FOUND ON FILE WITH ALASKA DNR

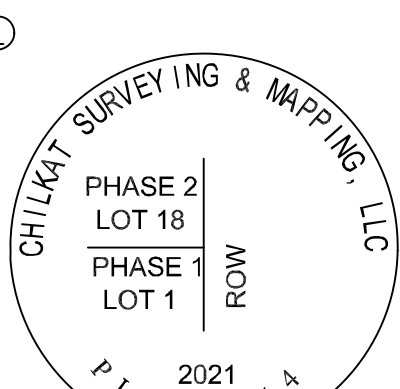
FOUND #5 REBAR S 04°55'56" W 1.29 FROM CORNER LOCATION MONUMENT NOT ACCEPTED NO RECORD FOUND ON FILE WITH ALASKA DNR



PRIMARY MONUMENT 2.5" x 30" ALUMINUM PIPE WITH 3.25" DIAMETER ALUMINUM CAP



PRIMARY MONUMENT 2.5" x 30" ALUMINUM PIPE WITH 3.25" DIAMETER ALUMINUM CAP



PRIMARY MONUMENT 2.5" x 30" ALUMINUM PIPE WITH 3.25" DIAMETER ALUMINUM CAP

**OWNERSHIP CERTIFICATE:**

WE, HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT WE HEREBY ADOPT THIS PLAT OF SUBDIVISION WITH OUR FREE CONSENT, AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS AND OTHER OPEN SPACES TO PUBLIC OR PRIVATE USE AS NOTED.

DATE: \_\_\_\_\_, 2023 DATE: \_\_\_\_\_, 2023  
 WILLIAM C. HEUMANN MICHAEL P. HEUMANN

**NOTARY ACKNOWLEDGEMENT:**

UNITED STATES OF AMERICA )  
 )  
 STATE OF ALASKA )

THIS IS TO CERTIFY THAT ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2023, BEFORE ME THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED WILLIAM C. HEUMANN AND MICHAEL P. HEUMANN TO ME KNOWN TO BE THE PERSONS DESCRIBED IN AND WHO EXECUTED THE ABOVE AND FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THEY SIGNED AND SEALED THE SAME FREELY AND VOLUNTARY FOR THE USES AND PURPOSES THEREIN MENTIONED AUTHORIZED TO DO SO.

WITNESS MY HAND AND OFFICIAL SEAL THE DAY AND YEAR IN THIS CERTIFICATE FIRST ABOVE WRITTEN.

NOTARY PUBLIC FOR ALASKA

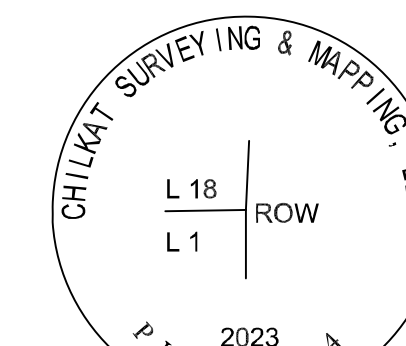
MY COMMISSION EXPIRES: \_\_\_\_\_

**NOTES:**

- 1) THE ERROR OF CLOSURE OF THIS SURVEY DOES NOT EXCEED 1:10,000.
- 2) ALL DISTANCES ARE MEASURED IN U.S. SURVEY FEET.
- 3) RECORD INFORMATION DERIVED FROM THE OFFICIAL PLAT OF US SURVEY 3263; US SURVEY 4807, PLAT OF SUBDIVISION OF LOTS 9 AND 10 US SURVEY 3263 TRACT A PLAT NO. 298 RECORDED 9 AUGUST 1961; MOUNTAINSIDE SUBDIVISION PLAT NO. 83-146 RECORDED 23 SEPTEMBER 1983; FAIRWEATHER SUBDIVISION PLAT NO. 83-147 RECORDED 23 SEPTEMBER 1983; DESERET SUBDIVISION PLAT NO. 91-9 RECORDED 28 FEBRUARY 1991; MOUNTAINSIDE SUBDIVISION II PLAT NO. 88-39 RECORDED 28 DECEMBER 1988; RICHLAND MANOR SUBDIVISION PLAT NO. 97-47 RECORDED 24 JULY 1997; VANDERBILT HILL SUBDIVISION PLAT NO. 99-52 RECORDED 29 OCTOBER 1999; A PLAT OF RESUBDIVISION OF LOT 1 CHILKAT VIEW SUBDIVISION PLAT NO. 2003-23; RECORDED 9 SEPTEMBER 2003; CHILKAT VIEW SUBDIVISION II PLAT NO. 2005-20 RECORDED 20 APRIL 2005; A PLAT OF FALLING TREE SUBDIVISION PLAT NO. 2009-18 RECORDED 7 JULY 2009; PLAT OF LOT 2A, CHILKAT VIEW SUBDIVISION II AND TRACT 1A1, US SURVEY 3246 PLAT NO. 2015-41 RECORDED 6 OCTOBER 2015; RAVENWOOD SUBDIVISION PLAT NO. 2019-3 RECORDED 28 JANUARY 2019; CHILKAT VISTAS SUBDIVISION PHASE 1 PLAT NO. 2020-27 RECORDED 11 AUGUST 2020 ON FILE WITH THE ALASKA DEPARTMENT OF NATURAL RESOURCES RECORDERS OFFICE IN THE JUNEAU RECORDING DISTRICT.
- 4) WHERE DIFFERENT FROM RECORD OR CALCULATED, RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS AND REFERENCED TO A RECORDED PLAT (R#).
- 5) DOMESTIC WATER & SANITARY SEWER PROVIDED BY THE CITY AND BOROUGH OF JUNEAU PUBLIC UTILITIES.
- 6) SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
- 7) THE STORMWATER RUNOFF IS ACCEPTABLE PER CHILKAT VISTAS SUBDIVISION DRAINAGE PLAN IN APPROVED CONSTRUCTION PLAN SET. ALL REQUIRED CHILKAT VISTAS SUBDIVISION PUBLIC IMPROVEMENTS INCLUDING SURFACE DRAINAGE, DRIVEWAYS AND ROADSIDE DRAINAGE SHALL BE CONSTRUCTED PRIOR TO FINAL ACCEPTANCE FOR MAINTENANCE BY CBJ PUBLIC WORKS. MODIFICATIONS TO THE APPROVED PLANS WILL NOT BE ALLOWED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120 BEST MANAGEMENT PRACTICES.
- 8) WETLANDS MAY EXIST ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY. WETLANDS DELINEATED BY KOREN BOSWORTH NOVEMBER 2018
- 9) HOOTER LANE WILL BE DEVELOPED AS A PUBLIC TWO-WAY STREET, AS SET OUT IN THE SKETCH PLAT SUBMITTED WITH SMP20190004, SUBJECT TO CBJ PUBLIC IMPROVEMENT STANDARDS IN CBJ 49.35.
- 10) HOOTER LANE FROM GLACIER HIGHWAY TO HILLCREST AVENUE, AND HILLCREST AVENUE AND MOUNTAINSIDE DRIVE SHALL BE DEVELOPED WITH A SIDEWALK ON ONE SIDE. THE NUMBER OF SIDEWALKS IN THE REMAINDER OF CHILKAT VISTAS WILL BE DETERMINED AT THE TIME OF FUTURE DEVELOPMENT APPLICATIONS.
- 11) ROBBIE ROAD SHALL TERMINATE AND SHALL NOT BE A POINT OF ACCESS TO CHILKAT VISTAS, UNLESS REQUIRED, AND GATED, FOR FIRE/EMERGENCY SERVICE ACCESS ONLY.
- 12) HILLCREST AVENUE SHALL TERMINATE AT HOOTER LANE. HILLCREST AVENUE MAY CONNECT TO HOOTER LANE WEST OF THE EXISTING HILLCREST ALIGNMENT AS SHOWN IN THE SKETCH PLAT SUBMITTED WITH SMP20190004. ALTERNATIVELY ROAD ACCESS TO THE NORTHEAST PORTION OF "TRACT A2" MAY CONNECT TO THE EAST/WEST PORTION OF MOUNTAINSIDE DRIVE ACROSS FROM THE ENTRANCE TO THE "POCKET" BETWEEN HILLCREST AND MOUNTAINSIDE.
- 13) OTHER THAN SHOWN, THERE IS AN IMPLIED PRIVATE DRAINAGE EASEMENT ALONG ALL SIDE PROPERTY LINES WITHIN THE SUBDIVISION BEING 10 FEET IN WIDTH CENTERED ON EACH ADJOINING PROPERTY LINE.
- 14) TEMPORARY CUL-DE-SAC EASEMENT SHALL BE VACATED UPON EXTENSION OF HILLCREST AVENUE UNLESS THE DIRECTOR DETERMINES ALL OR A PORTION OF THE CUL-DE-SAC MAY REMAIN.
- 15) PORTION OF 15' DRAINAGE EASEMENT FROM PLAT 2020-27 WITHIN THE BOUNDARY OF LOT 18 VACATED THIS PLAT.
- 16) LOTS 15, 16, 17, 20, 21, 22, 23, 24, AND 26 ARE BUNGALOW LOTS. AT THE TIME OF PLAT RECORDING, STRUCTURES ON LOTS 15, 16, 17, 20, 21, 22, 23, 24, AND 26 RE LIMITED TO ONE 1,000 SQUARE FOOT DETACHED SINGLE FAMILY RESIDENCE PER LOT. OTHER DEVELOPMENT RESTRICTIONS APPLY. SEE THE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.
- 17) DRAINAGE AND SEWER EASEMENT GRANTED WITH PLAT 2020-27 TO BE ELIMINATED WHEN PHASE II SEWER CONNECTION IS COMPLETED.



5/8" x 3/8" REBAR WITH RED PLASTIC CAP



PRIMARY MONUMENT 2.5" x 30" ALUMINUM PIPE WITH 3.25" DIAMETER ALUMINUM CAP WITH CLEAR DEEP 1 MAGNET AT THE BASE

**TYPICAL SET MONUMENT DETAIL**

N.T.S.

**SURVEYOR'S CERTIFICATE**

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

DATED: 23 JANUARY 2023



**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.

CHAIRMAN OF THE PLANNING COMMISSION  
 CITY AND BOROUGH OF JUNEAU

ATTEST:

MUNICIPAL CLERK  
 CITY AND BOROUGH OF JUNEAU

PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
 SUBDIVISION OF  
 TRACT A CHILKAT VISTAS SUBDIVISION  
 A FRACTION OF US SURVEY 4807  
 WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
 JUNEAU RECORDING DISTRICT

**STATE RECORDERS OFFICE AT ANCHORAGE**

**CHILKAT SURVEYING & MAPPING, LLC**  
 10654 PORTER LANE JUNEAU, ALASKA 99801  
 907-957-1908

**OWNERS**  
 WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
 6000 THANE ROAD JUNEAU, ALASKA 99801

SMF: 2022-03    SCALE: NTS    DATE: 24 JANUARY 2023    SHEET NO. 3 OF 4

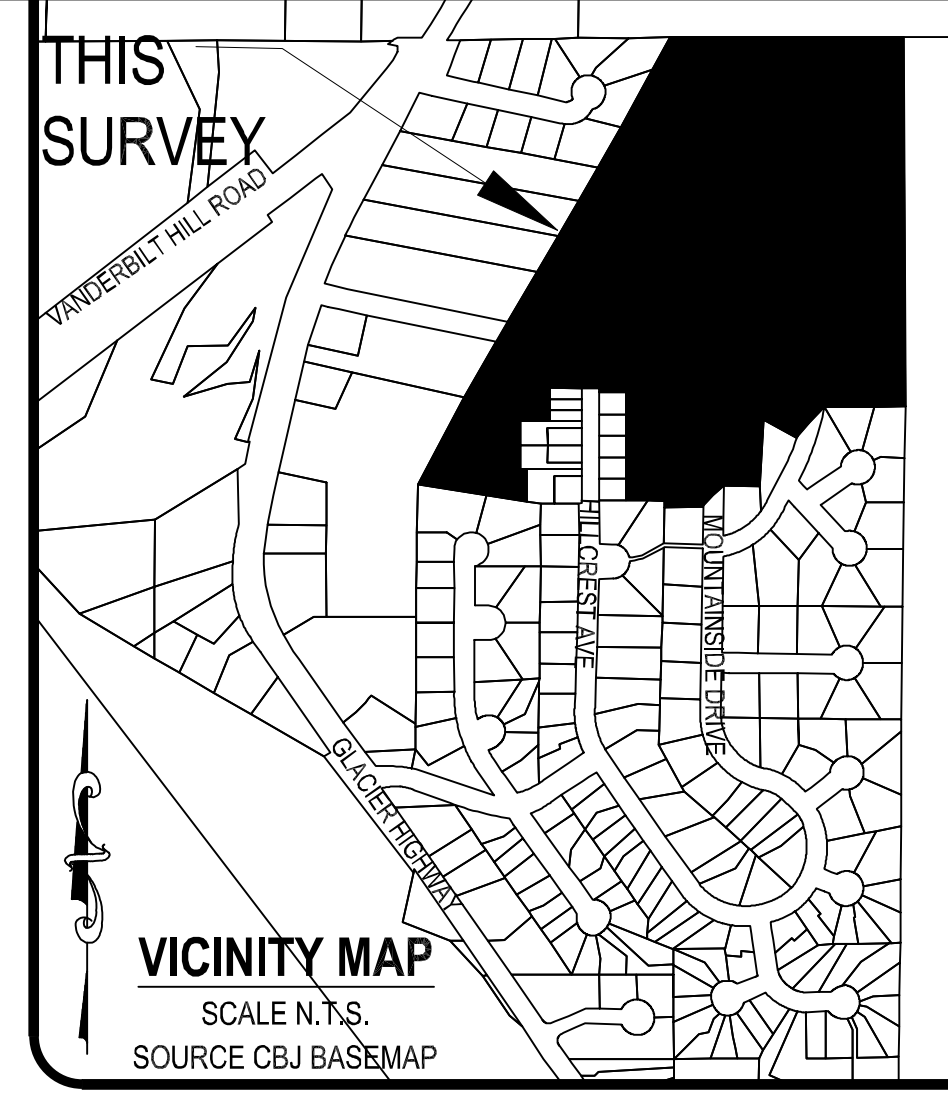


**BASIS OF BEARING:**

THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF S 89° 52'00" E AS DELINEATED ON THE OFFICIAL PLAT OF US SURVEY 4807 SUBDIVISION, APPROVED 23 MARCH 1965, BETWEEN FOUND PRIMARY MONUMENTS WHICH MARK CORNER 1 AND CORNER 2, US SURVEY 4807 AS SHOWN ON THIS PLAT.

LOT 2  
PLAT 91-9  
BASIS OF BEARING  
S 89° 52'00" E 726.81 (726.81)R3

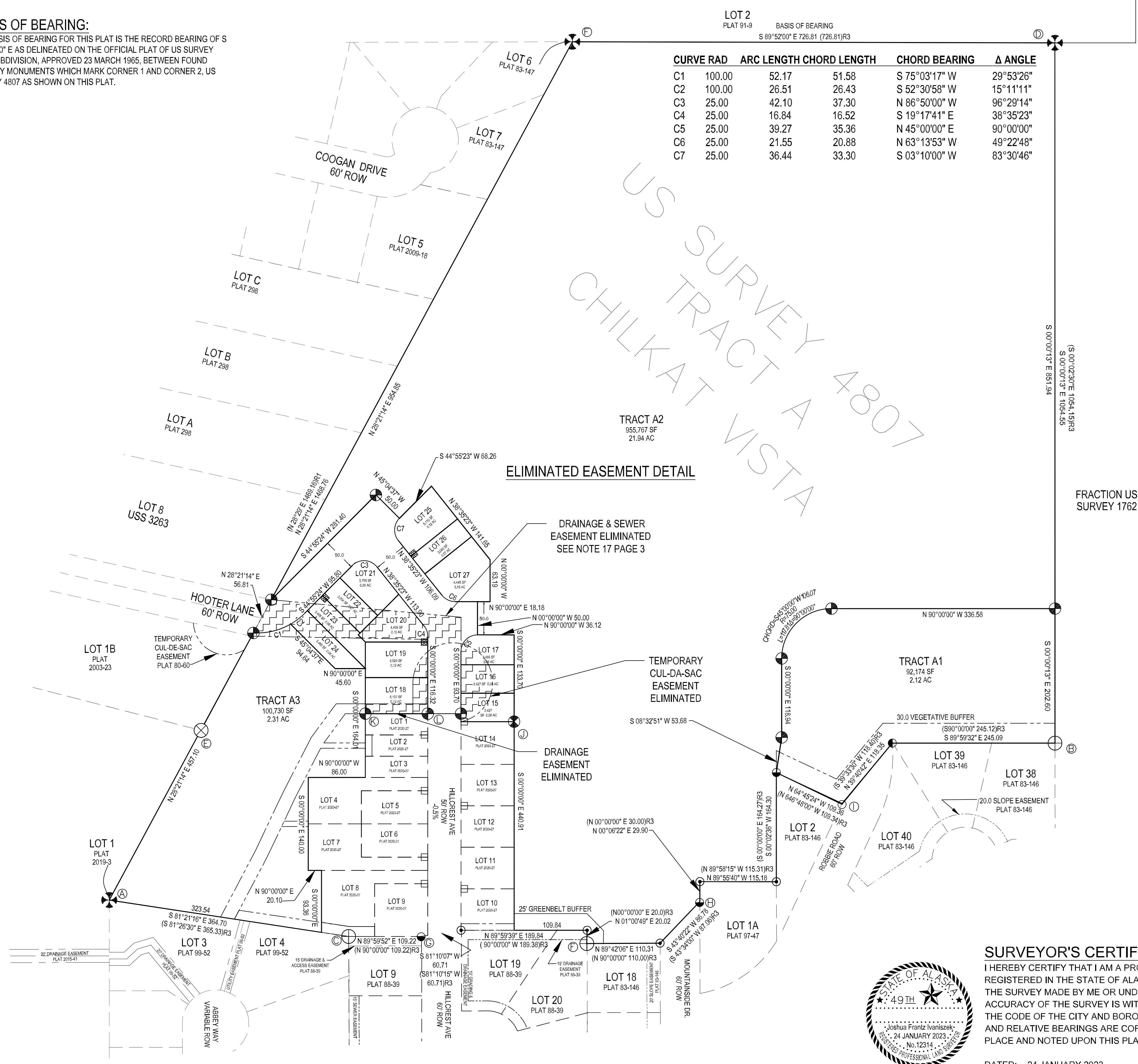
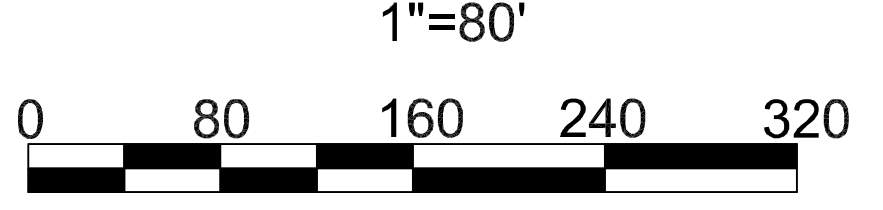
CURVE RAD	ARC LENGTH	CHORD LENGTH	CHORD BEARING	Δ ANGLE
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C7	25.00	36.44	33.30	S 03°10'00" W 83°30'46"



**LEGEND:**

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- JW BEAN 3650-S PRIMARY MONUMENT RECOVERED
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- CHILKAT SURVEYING PRIMARY MONUMENT RECOVERED
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- 6277-S SECONDARY MONUMENT RECOVERED
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- UNSURVEYED LINES
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- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33" W)R3 RECORD INFORMATION FROM PLAT No. 97-47
- (S00°06'33" W)R4 RECORD INFORMATION FROM PLAT No. 2020-27
- ELECTRICAL EASEMENT ESTABLISHED THIS SURVEY
- EASEMENTS VACATED THIS SURVEY

**VACATED EASEMENT DETAIL**



**SURVEYOR'S CERTIFICATE**

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



DATED: 24 JANUARY 2023

PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
SUBDIVISION OF  
TRACT A CHILKAT VISTAS SUBDIVISION  
A FRACTION OF US SURVEY 4807  
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT ANCHORAGE

**CHILKAT SURVEYING & MAPPING, LLC**  
10654 PORTER LANE JUNEAU, ALASKA 99801  
907-957-1908

OWNERS  
WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
6000 THANE ROAD JUNEAU, ALASKA 99801

SMF: 2022-03    SCALE: 1"=80'    DATE: 24 JANUARY 2023    SHEET NO. 4 OF 4

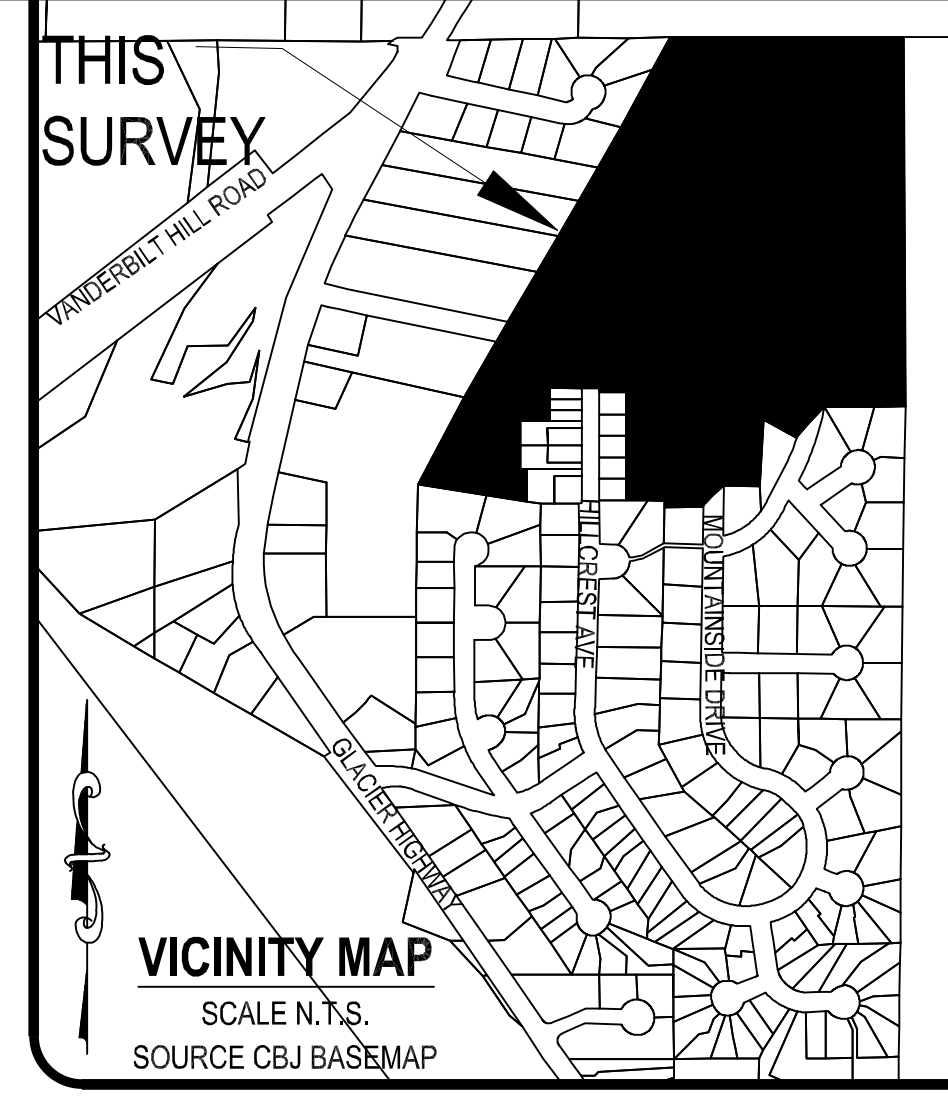


**BASIS OF BEARING:**

THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF S 89° 52'00" E AS DELINEATED ON THE OFFICIAL PLAT OF US SURVEY 4807 SUBDIVISION, APPROVED 23 MARCH 1965, BETWEEN FOUND PRIMARY MONUMENTS WHICH MARK CORNER 1 AND CORNER 2, US SURVEY 4807 AS SHOWN ON THIS PLAT.

LOT 2  
PLAT 91-9  
BASIS OF BEARING  
S 89° 52'00" E 726.81 (726.81)R3

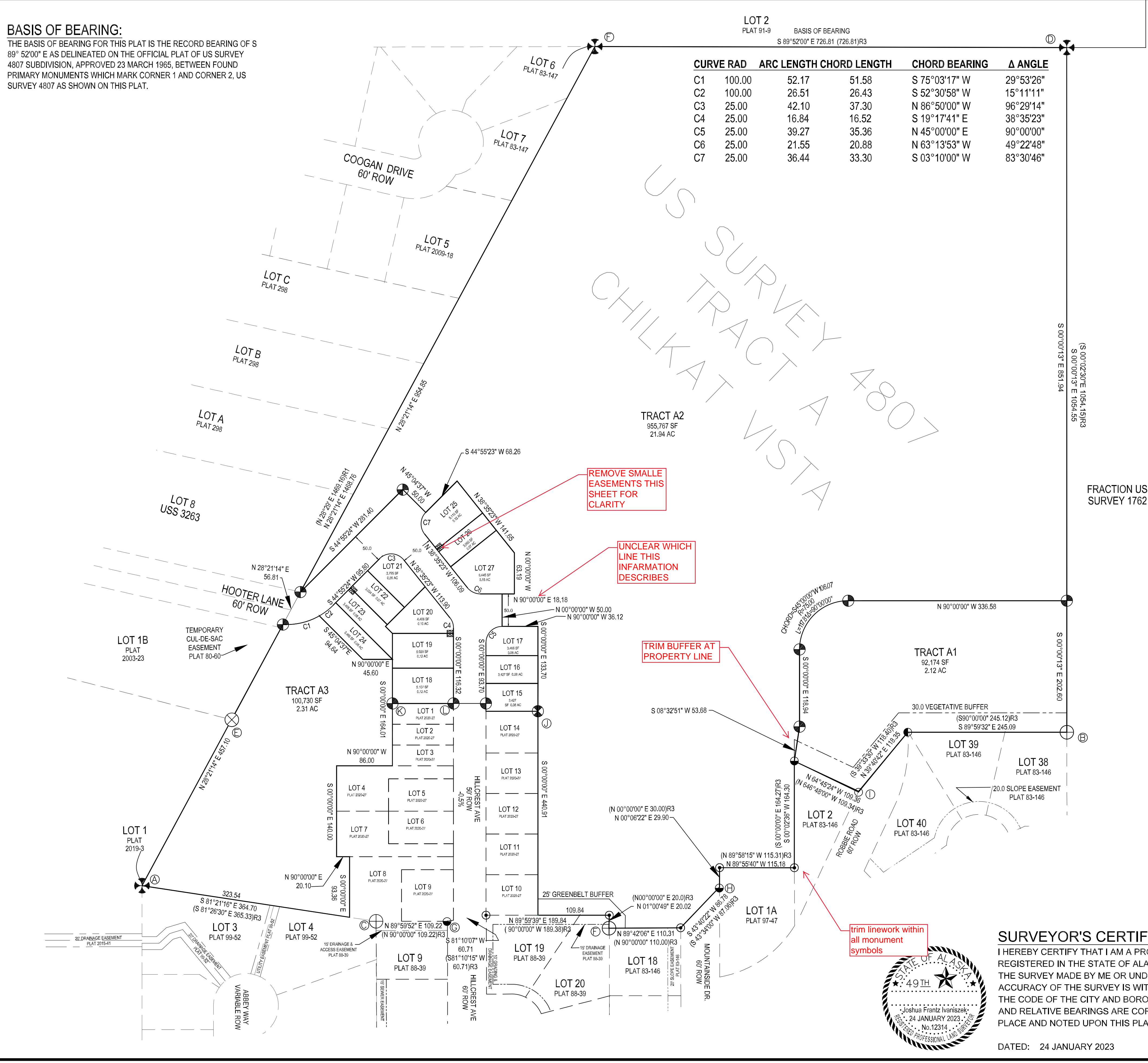
CURVE RAD	ARC LENGTH	CHORD LENGTH	CHORD BEARING	Δ ANGLE
C1	100.00	52.17	51.58	S 75°03'17" W 29°53'26"
C2	100.00	26.51	26.43	S 52°30'58" W 15°11'11"
C3	25.00	42.10	37.30	N 86°50'00" W 96°29'14"
C4	25.00	16.84	16.52	S 19°17'41" E 38°35'23"
C5	25.00	39.27	35.36	N 45°00'00" E 90°00'00"
C6	25.00	21.55	20.88	N 63°13'53" W 49°22'48"
C7	25.00	36.44	33.30	S 03°10'00" W 83°30'46"



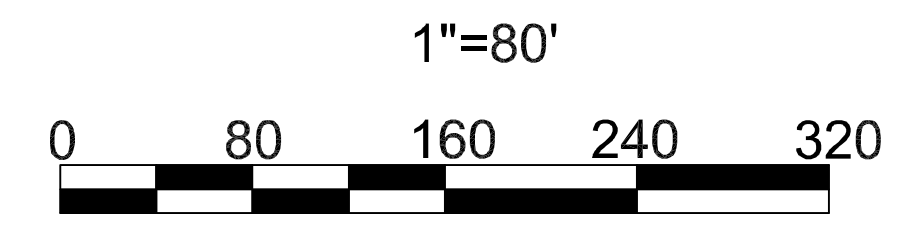
**LEGEND:**

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- JW BEAN 3650-S PRIMARY MONUMENT RECOVERED
- CHILKAT SURVEYING PRIMARY MONUMENT ESTABLISHED
- CHILKAT SURVEYING PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- 6277-S SECONDARY MONUMENT RECOVERED
- 3650-S MONUMENT RECOVERED
- #5 REBAR RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- EASEMENT BOUNDARY
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33" W)R3 RECORD INFORMATION FROM PLAT No. 97-47
- (S00°06'33" W)R4 RECORD INFORMATION FROM PLAT No. 2020-27
- ELECTRICAL EASEMENT ESTABLISHED THIS SURVEY

US SURVEY 4807  
CHILKAT VISTA TRACT A



NEEDS TO BE SAME LTS SCALE AS LINES IN PLAT



PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
SUBDIVISION OF  
TRACT A CHILKAT VISTAS SUBDIVISION  
A FRACTION OF US SURVEY 4807  
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
JUNEAU RECORDING DISTRICT

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**STATE RECORDERS OFFICE AT ANCHORAGE**

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**CHILKAT SURVEYING & MAPPING, LLC**  
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**OWNERS**  
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6000 THANE ROAD JUNEAU, ALASKA 99801

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SMF: 2022-03	SCALE: 1" = 80'	DATE: 24 JANUARY 2023	SHEET NO. 1 OF 4
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**SURVEYOR'S CERTIFICATE**

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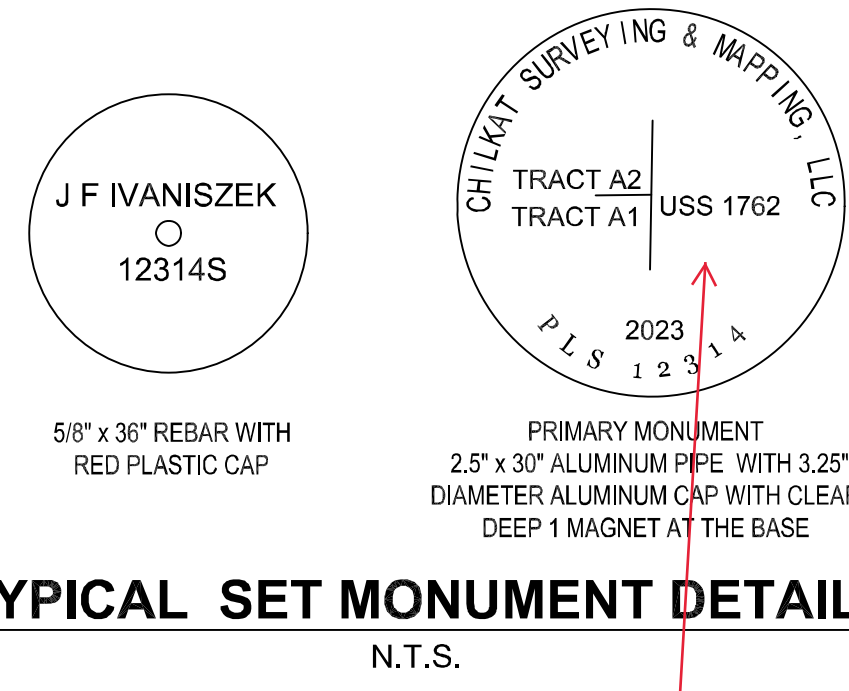
DATED: 24 JANUARY 2023



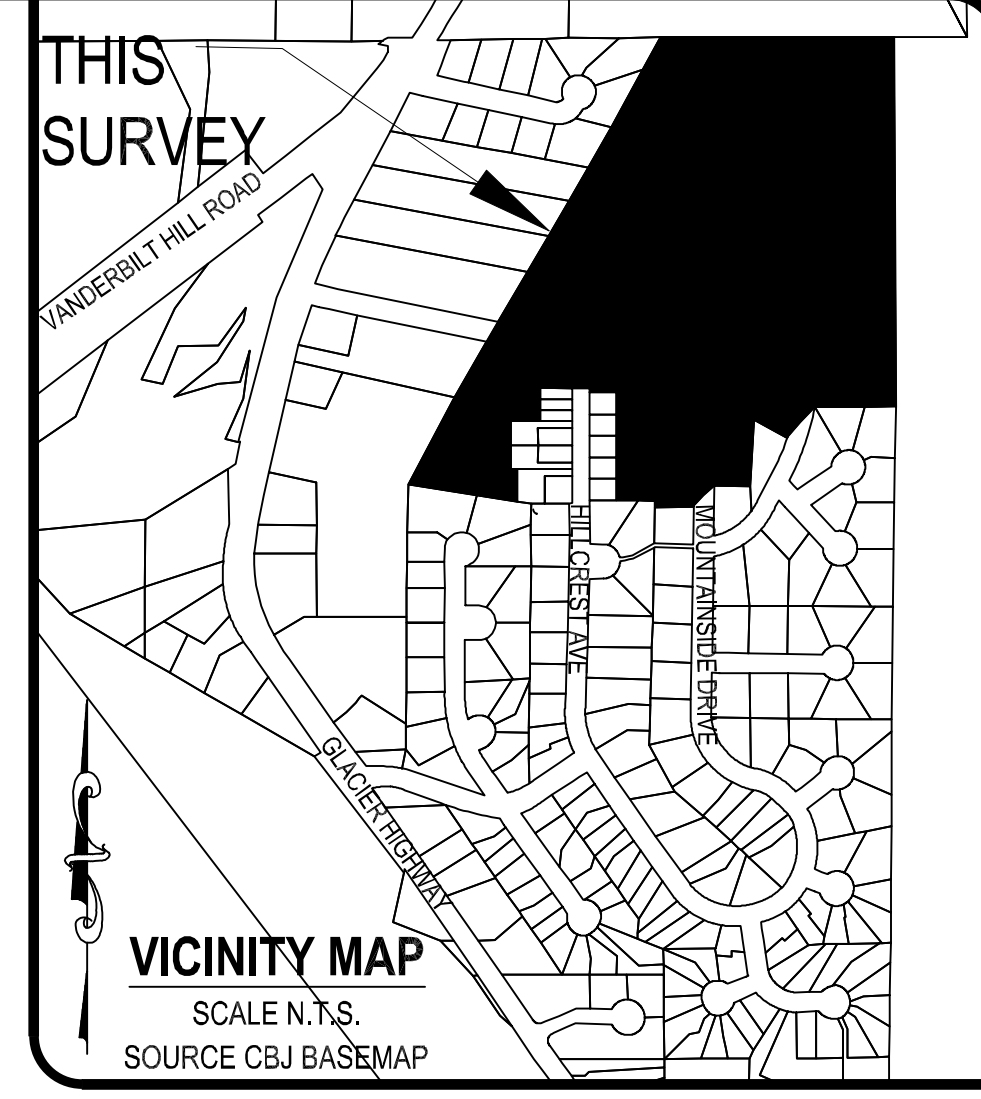


**LEGEND:**

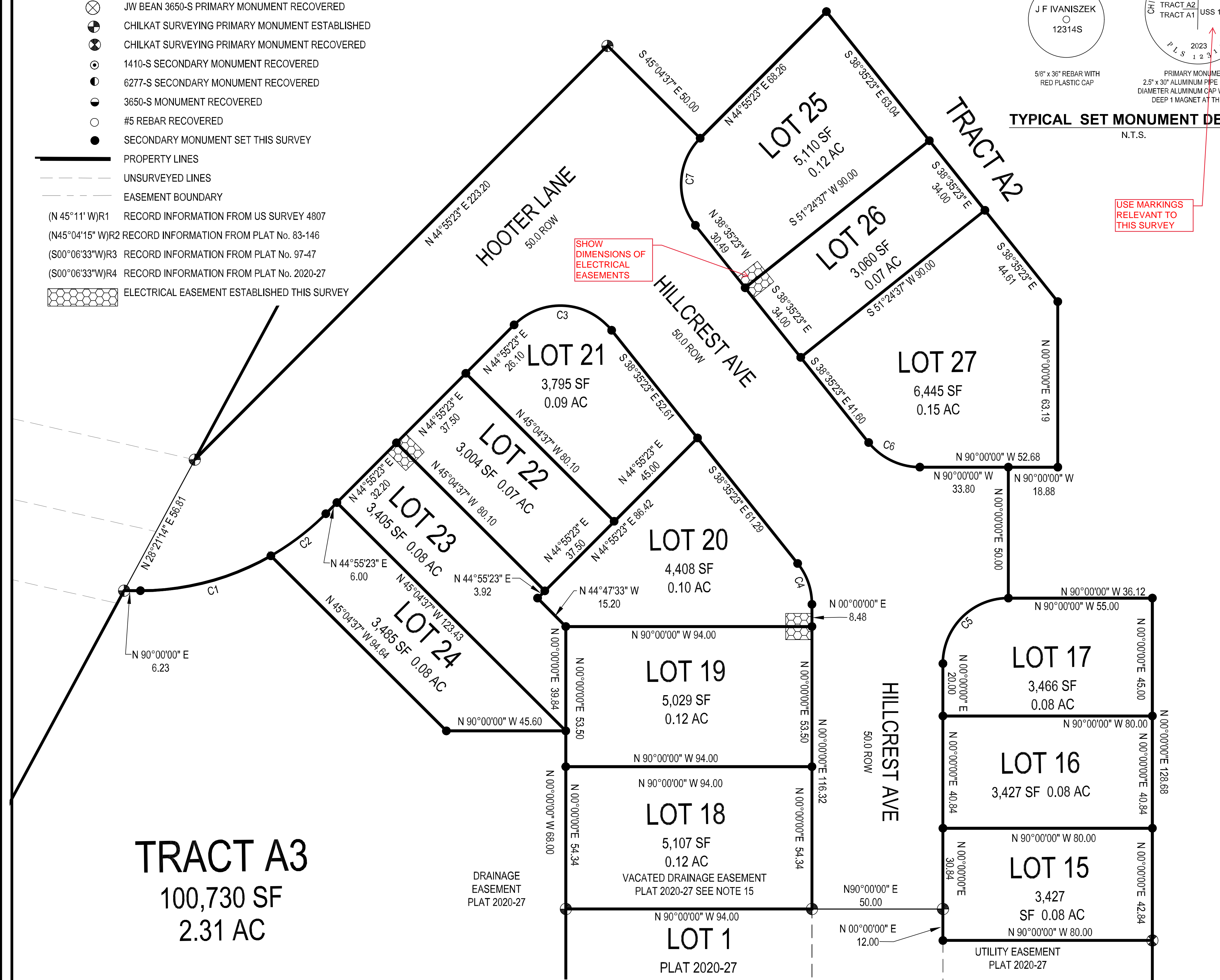
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- R&M PRIMARY MONUMENT RECOVERED
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- (S00°06'33"W)R4 RECORD INFORMATION FROM PLAT No. 2020-27
- ELECTRICAL EASEMENT ESTABLISHED THIS SURVEY



USE MARKINGS RELEVANT TO THIS SURVEY

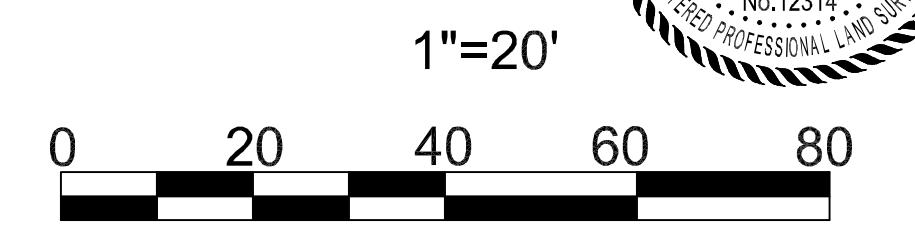


CURVE RAD	ARC LENGTH	CHORD LENGTH	CHORD BEARING	Δ ANGLE
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**SURVEYOR'S CERTIFICATE**  
 I, JOSHUA FRANTZ IVANISZEK, HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, AND THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONS AND RELATIVE BEARINGS ARE CORRECT AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

DATED: 23 JANUARY 2023



PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
 SUBDIVISION OF  
 TRACT A CHILKAT VISTAS SUBDIVISION  
 A FRACTION OF US SURVEY 4807  
 WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
 JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT ANCHORAGE

CHILKAT SURVEYING & MAPPING, LLC  
 10654 PORTER LANE JUNEAU, ALASKA 99801  
 907-957-1908

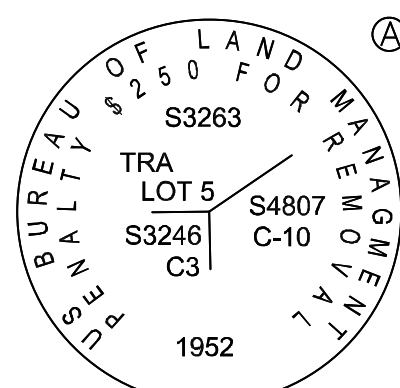
OWNERS  
 WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
 6000 THANE ROAD JUNEAU, ALASKA 99801

SMF: 2022-03    SCALE: 1" = 20'    DATE: 24 JANUARY 2023    SHEET NO. 2 OF 4

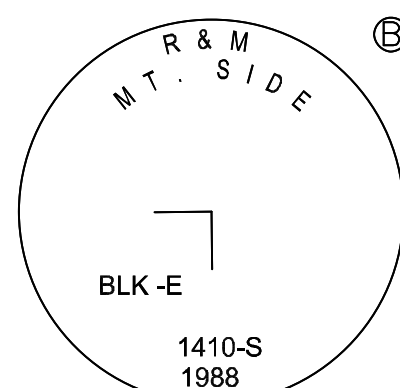


**FOUND MONUMENT DESCRIPTIONS:**

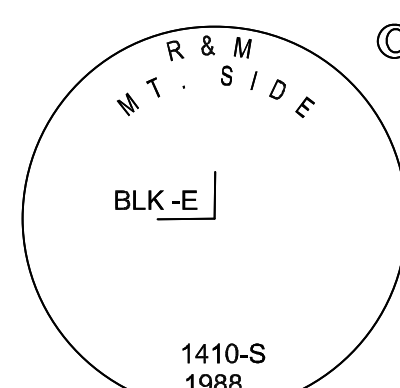
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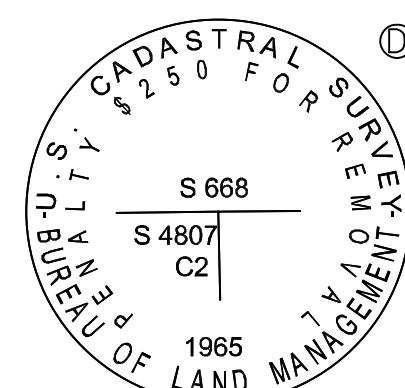
2.5" BRASS CAP MONUMENT



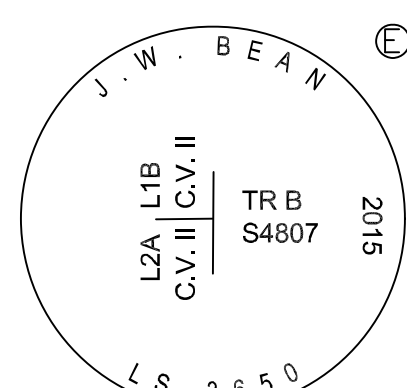
3.25" ALUMINUM CAP MONUMENT



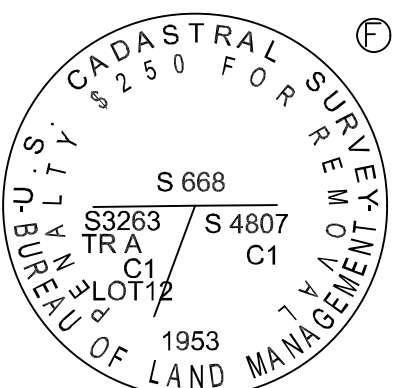
3.25" ALUMINUM CAP MONUMENT



2.5" BRASS CAP MONUMENT



3.25" ALUMINUM CAP MONUMENT FOUND J.W. BEAN MONUMENT S 61°38'46" E 0.37 FROM US SURVEY 4807 BOUNDARY MONUMENT NOT ACCEPTED

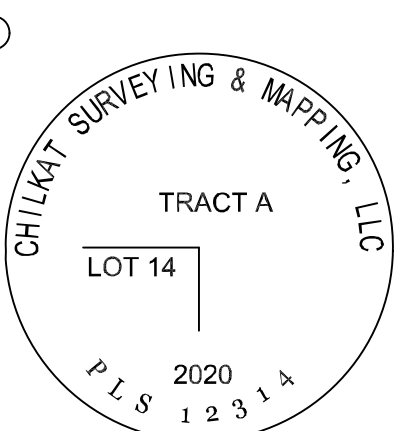


2.5" BRASS CAP MONUMENT

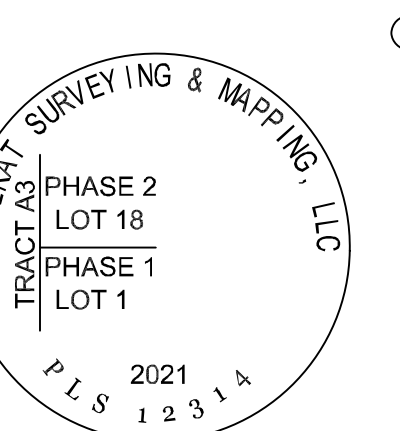
FOUND J.W. BEAN REBAR MONUMENT S 01°34'23" W 0.62 FROM CORNER LOCATION MONUMENT NOT ACCEPTED NO RECORD FOUND ON FILE WITH ALASKA DNR

FOUND JW BEAN REBAR S 11°57'46" W 1.60 FROM CORNER LOCATION MONUMENT NOT ACCEPTED NO RECORD FOUND ON FILE WITH ALASKA DNR

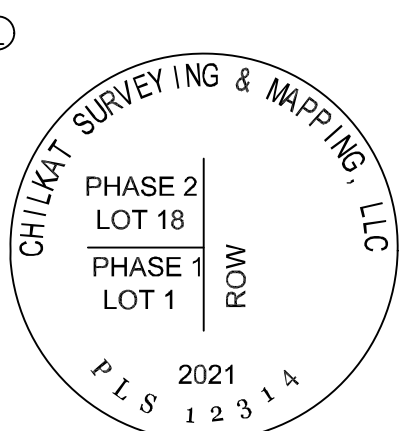
FOUND #5 REBAR S 04°55'56" W 1.29 FROM CORNER LOCATION MONUMENT NOT ACCEPTED NO RECORD FOUND ON FILE WITH ALASKA DNR



PRIMARY MONUMENT 2.5" x 30" ALUMINUM PIPE WITH 3.25" DIAMETER ALUMINUM CAP



PRIMARY MONUMENT 2.5" x 30" ALUMINUM PIPE WITH 3.25" DIAMETER ALUMINUM CAP



PRIMARY MONUMENT 2.5" x 30" ALUMINUM PIPE WITH 3.25" DIAMETER ALUMINUM CAP

**OWNERSHIP CERTIFICATE:**

WE, HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT WE HEREBY ADOPT THIS PLAT OF SUBDIVISION WITH OUR FREE CONSENT, AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS AND OTHER OPEN SPACES TO PUBLIC OR PRIVATE USE AS NOTED.

DATE: \_\_\_\_\_, 2023 DATE: \_\_\_\_\_, 2023  
 WILLIAM C. HEUMANN MICHAEL P. HEUMANN

**NOTARY ACKNOWLEDGEMENT:**

UNITED STATES OF AMERICA )  
 )  
 STATE OF ALASKA )

THIS IS TO CERTIFY THAT ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2023, BEFORE ME THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED WILLIAM C. HEUMANN AND MICHAEL P. HEUMANN TO ME KNOWN TO BE THE PERSONS DESCRIBED IN AND WHO EXECUTED THE ABOVE AND FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THEY SIGNED AND SEALED THE SAME FREELY AND VOLUNTARY FOR THE USES AND PURPOSES THEREIN MENTIONED AUTHORIZED TO DO SO.

WITNESS MY HAND AND OFFICIAL SEAL THE DAY AND YEAR IN THIS CERTIFICATE FIRST ABOVE WRITTEN.

NOTARY PUBLIC FOR ALASKA

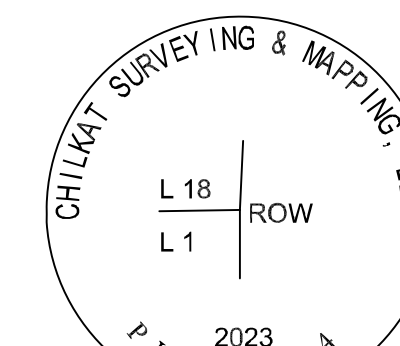
MY COMMISSION EXPIRES: \_\_\_\_\_

**NOTES:**

- 1) THE ERROR OF CLOSURE OF THIS SURVEY DOES NOT EXCEED 1:10,000.
- 2) ALL DISTANCES ARE MEASURED IN U.S. SURVEY FEET.
- 3) RECORD INFORMATION DERIVED FROM THE OFFICIAL PLAT OF US SURVEY 3263; US SURVEY 4807, PLAT OF SUBDIVISION OF LOTS 9 AND 10 US SURVEY 3263 TRACT A PLAT NO. 298 RECORDED 9 AUGUST 1961; MOUNTAINSIDE SUBDIVISION PLAT NO. 83-146 RECORDED 23 SEPTEMBER 1983; FAIRWEATHER SUBDIVISION PLAT NO. 83-147 RECORDED 23 SEPTEMBER 1983; DESERET SUBDIVISION PLAT NO. 91-9 RECORDED 28 FEBRUARY 1991; MOUNTAINSIDE SUBDIVISION II PLAT NO. 88-39 RECORDED 28 DECEMBER 1988; RICHLAND MANOR SUBDIVISION PLAT NO. 97-47 RECORDED 24 JULY 1997; VANDERBILT HILL SUBDIVISION PLAT NO. 99-52 RECORDED 29 OCTOBER 1999; A PLAT OF RESUBDIVISION OF LOT 1 CHILKAT VIEW SUBDIVISION PLAT NO. 2003-23; RECORDED 9 SEPTEMBER 2003; CHILKAT VIEW SUBDIVISION II PLAT NO. 2005-20 RECORDED 20 APRIL 2005; A PLAT OF FALLING TREE SUBDIVISION PLAT NO. 2009-18 RECORDED 7 JULY 2009; PLAT OF LOT 2A, CHILKAT VIEW SUBDIVISION II AND TRACT 1A1, US SURVEY 3246 PLAT NO. 2015-41 RECORDED 6 OCTOBER 2015; RAVENWOOD SUBDIVISION PLAT NO. 2019-3 RECORDED 28 JANUARY 2019; CHILKAT VISTAS SUBDIVISION PHASE 1 PLAT NO. 2020-27 RECORDED 11 AUGUST 2020 ON FILE WITH THE ALASKA DEPARTMENT OF NATURAL RESOURCES RECORDERS OFFICE IN THE JUNEAU RECORDING DISTRICT.
- 4) WHERE DIFFERENT FROM RECORD OR CALCULATED, RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS AND REFERENCED TO A RECORDED PLAT (R#).
- 5) DOMESTIC WATER & SANITARY SEWER PROVIDED BY THE CITY AND BOROUGH OF JUNEAU PUBLIC UTILITIES.
- 6) SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
- 7) THE STORMWATER RUNOFF IS ACCEPTABLE PER CHILKAT VISTAS SUBDIVISION DRAINAGE PLAN IN APPROVED CONSTRUCTION PLAN SET. ALL REQUIRED CHILKAT VISTAS SUBDIVISION PUBLIC IMPROVEMENTS INCLUDING SURFACE DRAINAGE, DRIVEWAYS AND ROADSIDE DRAINAGE SHALL BE CONSTRUCTED PRIOR TO FINAL ACCEPTANCE FOR MAINTENANCE BY CBJ PUBLIC WORKS. MODIFICATIONS TO THE APPROVED PLANS WILL NOT BE ALLOWED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120 BEST MANAGEMENT PRACTICES.
- 8) WETLANDS MAY EXIST ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY. WETLANDS DELINEATED BY KOREN BOSWORTH NOVEMBER 2018
- 9) HOOTER LANE WILL BE DEVELOPED AS A PUBLIC TWO-WAY STREET, AS SET OUT IN THE SKETCH PLAT SUBMITTED WITH SMP20190004, SUBJECT TO CBJ PUBLIC IMPROVEMENT STANDARDS IN CBJ 49.35.
- 10) HOOTER LANE FROM GLACIER HIGHWAY TO HILLCREST AVENUE, AND HILLCREST AVENUE AND MOUNTAINSIDE DRIVE SHALL BE DEVELOPED WITH A SIDEWALK ON ONE SIDE. THE NUMBER OF SIDEWALKS IN THE REMAINDER OF CHILKAT VISTAS WILL BE DETERMINED AT THE TIME OF FUTURE DEVELOPMENT APPLICATIONS.
- 11) ROBBIE ROAD SHALL TERMINATE AND SHALL NOT BE A POINT OF ACCESS TO CHILKAT VISTAS, UNLESS REQUIRED, AND GATED, FOR FIRE/EMERGENCY SERVICE ACCESS ONLY.
- 12) HILLCREST AVENUE SHALL TERMINATE AT HOOTER LANE. HILLCREST AVENUE MAY CONNECT TO HOOTER LANE WEST OF THE EXISTING HILLCREST ALIGNMENT AS SHOWN IN THE SKETCH PLAT SUBMITTED WITH SMP20190004. ALTERNATIVELY ROAD ACCESS TO THE NORTHEAST PORTION OF "TRACT A2" MAY CONNECT TO THE EAST/WEST PORTION OF MOUNTAINSIDE DRIVE ACROSS FROM THE ENTRANCE TO THE "POCKET" BETWEEN HILLCREST AND MOUNTAINSIDE.
- 13) OTHER THAN SHOWN, THERE IS AN IMPLIED PRIVATE DRAINAGE EASEMENT ALONG ALL SIDE PROPERTY LINES WITHIN THE SUBDIVISION BEING 10 FEET IN WIDTH CENTERED ON EACH ADJOINING PROPERTY LINE.
- 14) TEMPORARY CUL-DE-SAC EASEMENT SHALL BE VACATED UPON EXTENSION OF HILLCREST AVENUE UNLESS THE DIRECTOR DETERMINES ALL OR A PORTION OF THE CUL-DE-SAC MAY REMAIN.
- 15) PORTION OF 15' DRAINAGE EASEMENT FROM PLAT 2020-27 WITHIN THE BOUNDARY OF LOT 18 VACATED THIS PLAT.
- 16) LOTS 15, 16, 17, 20, 21, 22, 23, 24, AND 26 ARE BUNGALOW LOTS. AT THE TIME OF PLAT RECORDING, STRUCTURES ON LOTS 15, 16, 17, 20, 21, 22, 23, 24, AND 26 RE LIMITED TO ONE 1,000 SQUARE FOOT DETACHED SINGLE FAMILY RESIDENCE PER LOT. OTHER DEVELOPMENT RESTRICTIONS APPLY. SEE THE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.
- 17) DRAINAGE AND SEWER EASEMENT GRANTED WITH PLAT 2020-27 TO BE ELIMINATED WHEN PHASE II SEWER CONNECTION IS COMPLETED.



5/8" x 36" REBAR WITH RED PLASTIC CAP



PRIMARY MONUMENT 2.5" x 30" ALUMINUM PIPE WITH 3.25" DIAMETER ALUMINUM CAP WITH CLEAR DEEP 1 MAGNET AT THE BASE

**TYPICAL SET MONUMENT DETAIL**

N.T.S.

**SURVEYOR'S CERTIFICATE**

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

DATED: 23 JANUARY 2023



**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.

CHAIRMAN OF THE PLANNING COMMISSION  
 CITY AND BOROUGH OF JUNEAU

ATTEST:

MUNICIPAL CLERK  
 CITY AND BOROUGH OF JUNEAU

PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
 SUBDIVISION OF  
 TRACT A CHILKAT VISTAS SUBDIVISION  
 A FRACTION OF US SURVEY 4807  
 WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
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**STATE RECORDERS OFFICE AT ANCHORAGE**

**CHILKAT SURVEYING & MAPPING, LLC**  
 10654 PORTER LANE JUNEAU, ALASKA 99801  
 907-957-1908

**OWNERS**  
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SMF: 2022-03    SCALE: NTS    DATE: 24 JANUARY 2023    SHEET NO. 3 OF 4

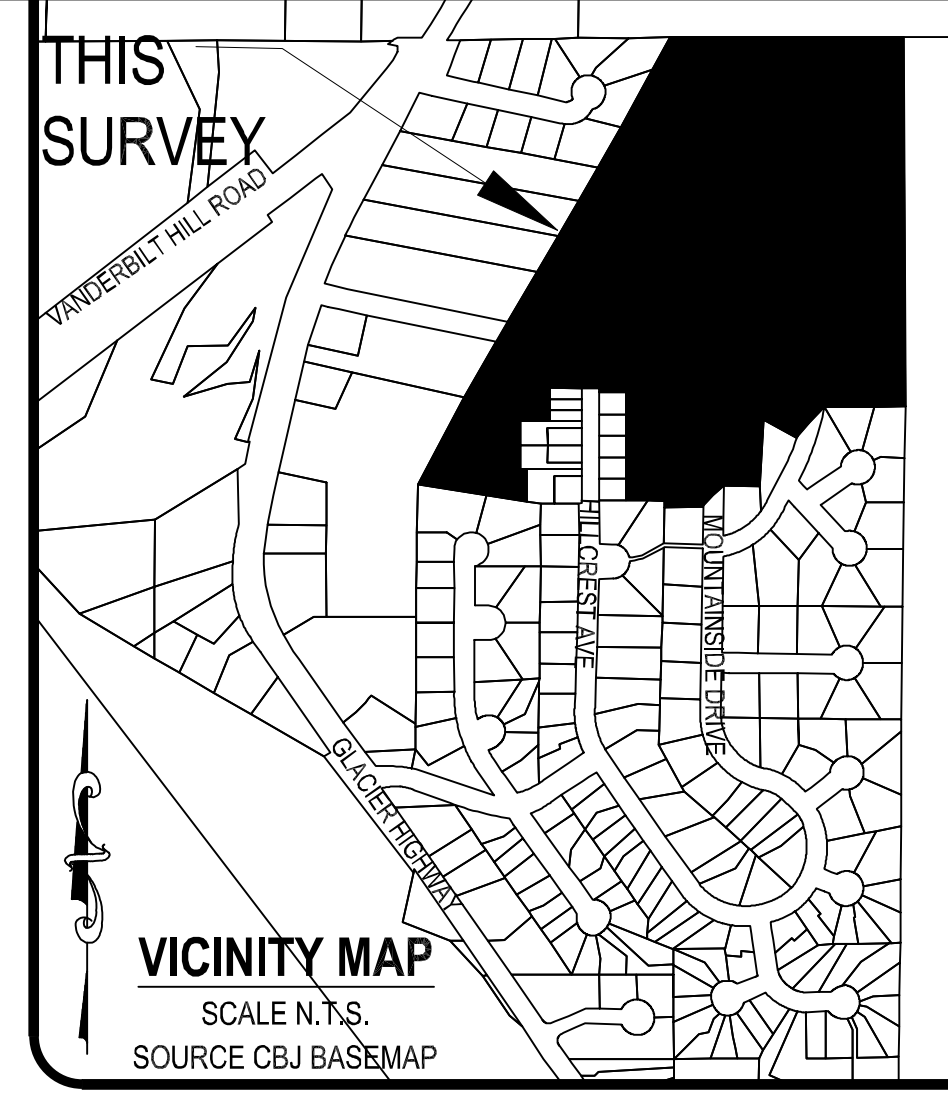


**BASIS OF BEARING:**

THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF S 89° 52'00" E AS DELINEATED ON THE OFFICIAL PLAT OF US SURVEY 4807 SUBDIVISION, APPROVED 23 MARCH 1965, BETWEEN FOUND PRIMARY MONUMENTS WHICH MARK CORNER 1 AND CORNER 2, US SURVEY 4807 AS SHOWN ON THIS PLAT.

LOT 2  
PLAT 91-9  
BASIS OF BEARING  
S 89°52'00" E 726.81 (726.81)R3

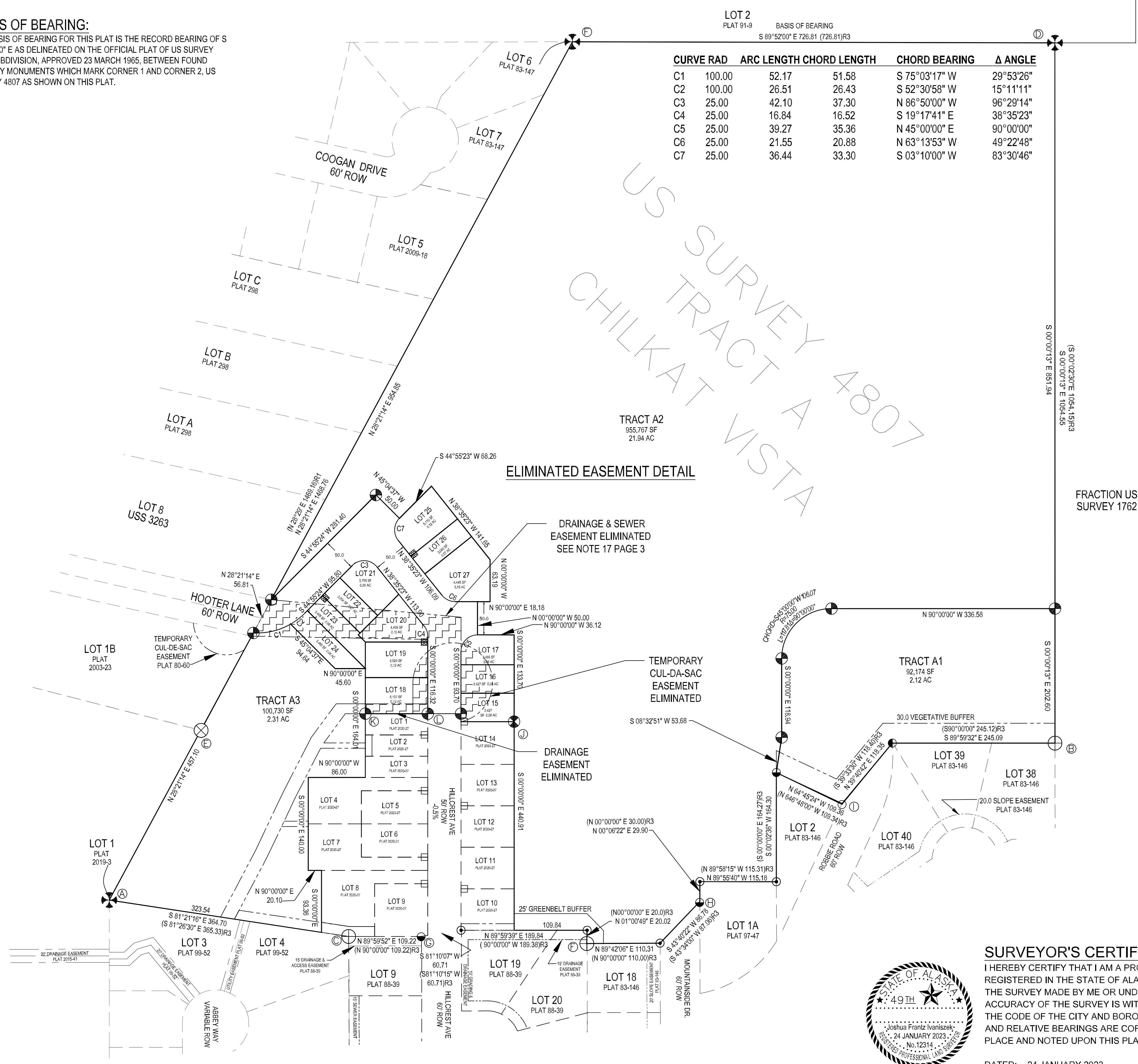
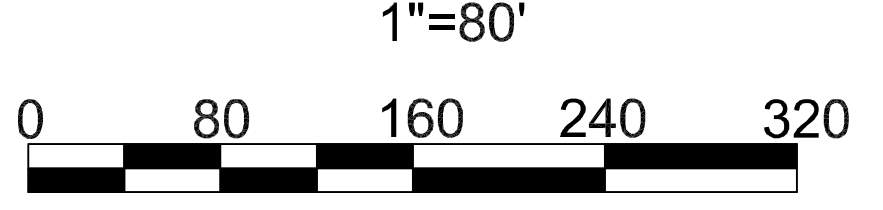
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**LEGEND:**

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- JW BEAN 3650-S PRIMARY MONUMENT RECOVERED
- CHILKAT SURVEYING PRIMARY MONUMENT ESTABLISHED
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- (S00°06'33" W)R4 RECORD INFORMATION FROM PLAT No. 2020-27
- ELECTRICAL EASEMENT ESTABLISHED THIS SURVEY
- EASEMENTS VACATED THIS SURVEY

**VACATED EASEMENT DETAIL**



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DATED: 24 JANUARY 2023

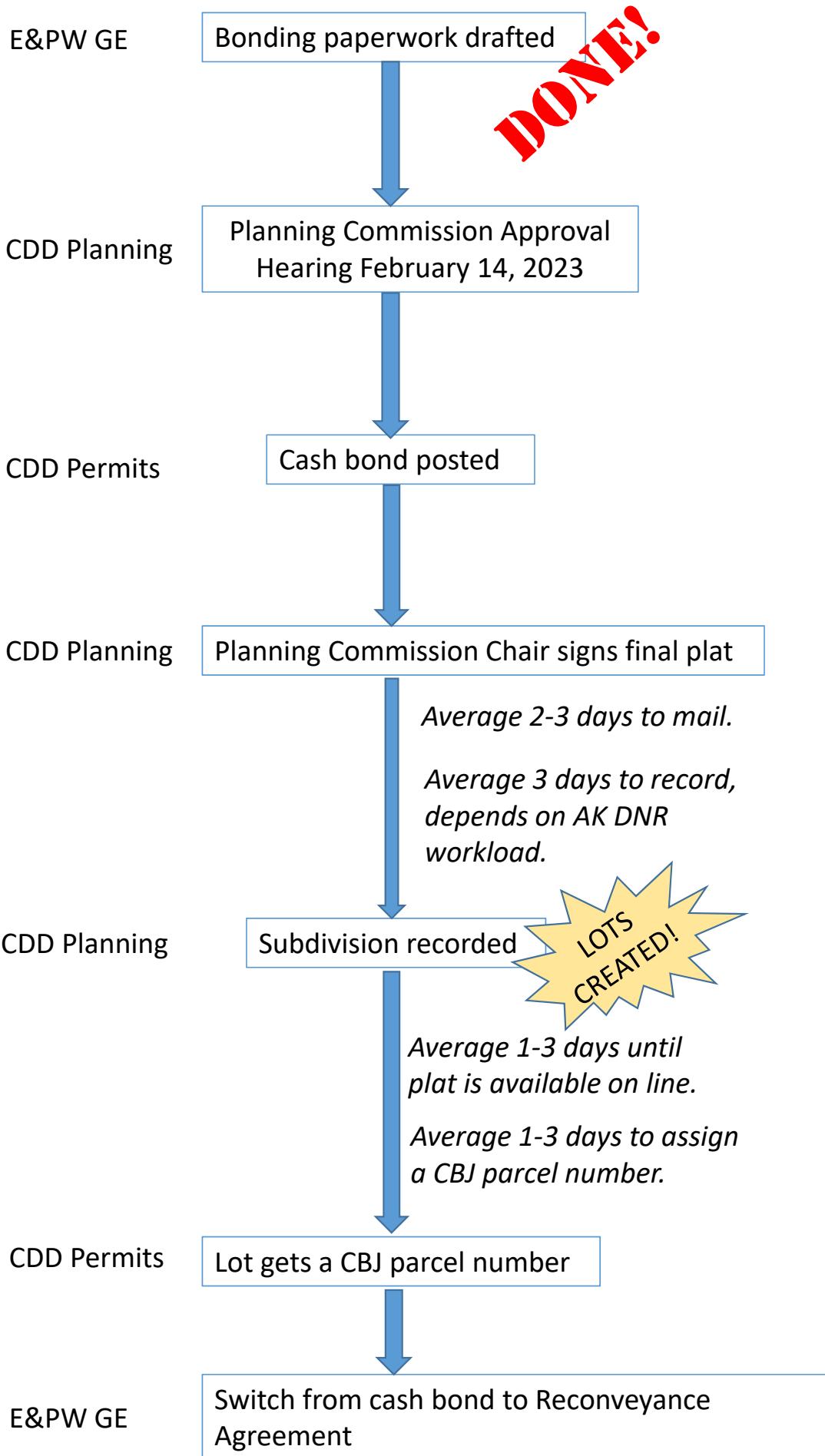
PLAT OF  
**CHILKAT VISTAS SUBDIVISION PHASE 2**  
SUBDIVISION OF  
TRACT A CHILKAT VISTAS SUBDIVISION  
A FRACTION OF US SURVEY 4807  
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA  
JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT ANCHORAGE

**CHILKAT SURVEYING & MAPPING, LLC**  
10654 PORTER LANE JUNEAU, ALASKA 99801  
907-957-1908

OWNERS  
WILLIAM C HEUMANN & MICHAEL P. HEUMANN  
6000 THANE ROAD JUNEAU, ALASKA 99801

SMF: 2022-03    SCALE: 1"=80'    DATE: 24 JANUARY 2023    SHEET NO. 4 OF 4



Attachment H - Bonding flow chart





## Irene Gallion

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**From:** Dan Jager  
**Sent:** Wednesday, December 28, 2022 1:29 PM  
**To:** Irene Gallion  
**Subject:** RE: SMP22-04/ SMF?: Final Plat Review

Hi Irene, I don't think there is anything to add from the fire side. Thanks!

*Daniel M. Jager*

Fire Marshal



*Capital City Fire Rescue*  
*820 Glacier Avenue*  
*Juneau, Alaska 99801*  
*907-586-5322 Ext. 4323 (Office)*  
*907-586-8323 (Fax)*

*"If it is predictable, then it is preventable.*  
*If it is preventable then it is not an accident".*

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**From:** Irene Gallion <Irene.Gallion@juneau.gov>  
**Sent:** Wednesday, December 21, 2022 10:56 AM  
**To:** General Engineering <General\_Engineering@juneau.gov>; Quinn Tracy <Quinn.Tracy@juneau.gov>; Dan Jager <Dan.Jager@juneau.gov>  
**Subject:** SMP22-04/ SMF?: Final Plat Review

Hello all,

Chilkat is getting ready to apply for the final plat for their subdivision. Attached is their latest subdivision submission. I've also attached our review notes from previous iterations, ideally to make it easier to double check them. Please review and let me know if this is ready to be finalized.

This is one of multiple items they are working on for finalization, including bonding and paying taxes.

If you are unable to review by December 30, let me know and we can work out a date.

Thanks!

**Irene Gallion | Senior Planner**

Community Development Department | City & Borough of Juneau, AK  
Location: 230 S. Franklin Street | 4<sup>th</sup> Floor Marine View Building  
Office: 907.586.0753 X2





*Fostering excellence in development for this generation and the next.*

**Irene Gallion**

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**From:** Chilkat Vistas <chilkatvistas@gmail.com>  
**Sent:** Monday, January 30, 2023 2:43 PM  
**To:** Irene Gallion  
**Subject:** Notice sign posted  
**Attachments:** 20230130\_144154.jpg

**EXTERNAL E-MAIL: BE CAUTIOUS WHEN OPENING FILES OR FOLLOWING LINKS**

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Its posted at the end of hillcrest Ave.

Thanks!



Attachment J - Sign Posted