

ALASKA COMMUNICATION SYSTEM
SIGNAL CORPS U. S. ARMY

ALASKA COMMUNICATION SYSTEM
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ALASKA COMMUNIC
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ZEW143

KZEW V KZA NRB54 INT

FROM STERLING JUNEAU ALASKA 301800Z

TO ALASKA ROAD COMM FAIRBANKS ALASKA

13263

GR18

RE WURTZ ROAD MUST HAVE ESTIMATE COST PD WILL WURTZ
BEAR ALL COSTS OVER FOUR HUNDRED DOLLARS QUESTION

1809Z

1946 OCT 5 AM 8:18

SYSTEM

ALASKA COMMUNICATION SYSTEM
SIGNAL CORPS U. S. ARMY

ALASKA COMMUNICATION SYSTEM
SIGNAL CORPS U. S. ARMY

ALASKA
SIGI

ZEW11

KZEW V KZA NRB14 INT

FROM STERLING JUNEAU 010025Z

TO ALASKA ROAD COMMISSION FAIRBANKS

63416

CRS

PROCEED WITH WURTZ ROAD AS PER YOUR WIRE DATE

0038Z

*Start
mm 1st*

70000

Wurtz Rd Costukhina

1943 OCT 31 11 21 A 1

DEPARTMENT OF THE INTERIOR
ALASKA ROAD COMMISSION
FAIRBANKS ALASKA

November 13, 1946

Mr. William Bolander,
Fairbanks, Alaska.

Dear Sir:

In accordance with your request and our agreement,
snow removal was performed on a road in the vicinity of
Ester.

For this work we are billing you as follows:

10	Gallons Gasoline	@	.23	2.30
30	Gallons Diesel	@	.21	6.30
1	Gallon Lub. Oil	@	.85	.85
				<hr/>
				9.45
1	Operator 8 hours	@	2.4350	19.48
1	Operator 4 hours	@	1.7142	6.86
				<hr/>
				26.34
	Plus 8% Non-effective time			<hr/>
				2.11
				<hr/>
				28.45
				<hr/>
				Total \$ 37.90

A prompt settlement will be appreciated.

Very truly yours,

Frank Nash,

Cater
Ln

7.D. (University Road)

This road leaves the Esther road
about Mile 3 and follows the
section line to Dead man
slough. Length 0.875 mile

54 299, 725

54 300.6

54 298, 85

54 299.725

0.875

875

Cost of Personnel

Auto car driver 8 hrs @ 1.90 = 15.20 ✓
 Dozer operator 48 hrs @ 1.90 = 91.20 ✓

 106.40 ✓
 + 12% = 12.77 ✓

 Total Labor - \$ 119.17 ✓

Supplies - 16 gal gas @ .50 = 8.00 ✓
 10 gal oil @ 1.00 = 10.00 ✓
 96 gal diesel @ .25 = 24.00 ✓
 10# grease @ .50 = 5.00 ✓

 Total supplies - \$ 35.26 ✓

Dozer Rental 5 days @ 50.00 ✓
 Auto car Rental 25 miles @ .25 = 6.25 ✓
 Saw day 25 hrs @ 1.20 = 30.00 ✓

 86.25 ✓
 Arguing ~~_____~~ ?

 463.68

 Total cost to date - ~~476.02~~ ✓

Territory appropriation 400.00 ✓
 Wertz donation 300.00 ✓

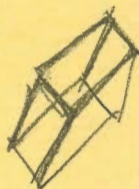
 700.00 ✓

DATE	DESCRIPTION	NUMBER	DATE	AMOUNT	REMARKS
	Total			700.00	
				463.68	
				<u>236.32</u>	
	Balance			\$ 30.83	
	Equipment net balance			105.49	

COMMUNICATION SYSTEM
U. S. ARMY

ALASKA COMMUNICATION SYSTEM
SIGNAL CORPS U. S. ARMY

ALASKA COMMUNICATION SYSTEM
SIGNAL CORPS U. S. ARMY



ZEW116

KZEW V KZA NRB52 INT

FROM STERLING JUNEAU ALASKA 272010Z

TO J G SHEPARD ALASKA ROAD COMMISSION FAIR ANKS ALASKA

02942

GR67

CONTACT WILLIAM WURTZ AND LOOK OVER WITH HIM ONE HALF MILE OF ROAD
HE IS REQUESTING TO HIS MINING PROPERTY NEAR ESTER PD IF YOU HAVE
NO AVAILABLE EQUIPMENT SUGGEST YOU TAKE YOUNG MACDONALDS WITH YOU AND
NEGOTIATE PRICE FOR JOB WITHOUT COMMITMENT UNTIL ADVISED PD NECESSARY
TO THIS AT ONCE BEFORE FURTHER FREEZING PD WORK WILL BE PAID FOR BY

FAIRBANKS ALASKA
OCTOBER 29 1947

FROM ROAD COMMISSION FAIRBANKS ALASKA
TO STERLING ROAD COMMISSION JUNEAU ALASKA

RE WURTZ ROAD JOB ENTAILS ABOUT THREE QUARTER MILE DOZER WORK WHICH
BELIEVE CAN BE DONE IF NOT DELAYED PD WE HAVE TWO DOZERS AVAILABLE
PD PLEASE ADVISE

FAIRBANKS ALASKA
OCTOBER 31 1947

FROM ROAD COMMISSION FAIRBANKS ALASKA
TO STERLING ROAD COMMISSION JUNEAU ALASKA

ESTIMATED COST WURTZ ROAD SEVEN HUNDRED DOLLARS PD WURTZ HAS
SUBMITTED CHECK FOR THREE HUNDRED DOLLARS PD WEATHER TURNING
COLD

ZEW71

KZLV V KZA NRB21 INT

FROM STERLING JUNEAU ALASKA 031720Z

TO ALASKA ROAD COMMISSION FAIRBANKS ALASKA

GR32

PURCHASE LATHE PD RE WURTZ ROAD FIELD ALLOTMENT NUMBER F

FORTY FOR TWO HUNDRED FIFTY DOLLARS BEING MAILED BALANCE OF

SEVEN HUNDRED DOLLARS FOR RENTAL AND J P DO NOT

EXCEED TOTAL

1728Z

WURTZ F J P

7 11 8 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

DEPARTMENT OF THE INTERIOR
ALASKA ROAD COMMISSION
FAIRBANKS ALASKA

November 12, 1947

Mr. Hawley Sterling,
Acting Chief Engineer,
Alaska Road Commission,
Juneau, Alaska.

RE: Wertz Road

Dear Sir:

Your wire concerning Wertz Road was received late Monday, October 27th.

Wertz was contacted and an investigation made on the morning of October 28. The cheapest and best approach was found to be from a wood road now in use. The work entails approximately 3/4 miles of side hill road which Rynearson, Quenboe and Wertz say will be dry, unfrozen ground. It is estimated that it will cost \$700.00 to build this piece of road without surfacing.

After receipt of your wire of October 30, Wertz was again contacted and deposited check in favor of the Alaska Road Commission for \$300.00 to cover difference of required funds.

Your wire to proceed with work was received at 5:00 P.M. October 31st.

A D-8 Cat. with Dozer was moved to the site on Saturday, November 1st. This piece of equipment was operated for five days- Monday, November 3rd to Friday, November 7th. A rough grade and turn around was dozed out which enables motor vehicles to get to the mine this winter. Due to freezing weather, it was not possible to do any good with a grader this winter. Some frost humps should also be taken out next summer.

Very truly yours,

JGS/d

John G. Shepard,
Assistant Superintendent

UNITED STATES
DEPARTMENT OF THE INTERIOR
ALASKA ROAD COMMISSION
JUNEAU, ALASKA

November 17, 1947.

Mr. John G. Shepard,
Assistant Supt., A. R. C.,
Fairbanks, Alaska.

Dear Sir:

Though it was all right to send in the costs on the Wirtz road, it is not necessary at this time. The job is being handled as a cooperative project and should go through your accounts exactly as if it were one of your regular jobs.

We are not submitting a copy of the details to Mr. Metcalf as it would only confuse him. When this gets through your account you will, of course, add the proportionate share of Garage Account and General Overhead which will probably increase the total amount.

Though the road will be a branch of 7D and costs included on that sheet for your cost summary, you should also show a separate sheet this year for this road.

Very truly yours,

Hawley Sterling
Hawley Sterling,
Acting Chief Engineer.

Fairbanks, Alaska,
January 12, 1948.

Mr. Pierre St. Amant, Chairman,
College Community Association,
Box 22,
College, Alaska.

Dear Sir:

Reference your letter of 6 January 1948, in regard to
the Railroad Crossing on the Ester Road.

Officials of this Organization are fully aware of this
dangerous crossing, but as it was created by the U.S. Engineers
at Ladd Field, it is our belief and the belief of others
interested that it is their problem to rectify the situation.

When it was first ascertained that the U.S. Engineers
intended raising their spur to Ladd Field to the present elev-
ation, they were contacted and requested to furnish proper
approaches, etc. However they did not do this but left it as
is.

This Organization, The Territorial Highway Patrol,
The Fairbanks Chamber of Commerce and other Organizations took
this matter up with various persons of the Military at Ladd
Field, several promises were made but to date no action has
been taken by them.

It is suggested that your Organization take this
matter up with Mr. Martin, the Resident Engineer at Ladd Field,
also with General Everest and Colonel Whatnee. If all
interested Organizations bring pressure on them, we may possibly
secure some action in the near future.

Very truly yours,

Frank Nash

72

May 19, 1949

District Engineer,
Corps of Engineers, Alaska District,
Fort Richardson,
Anchorage, Alaska.

Attention: Materials Laboratory.

Sirs:

On this date we are shipping to the Materials Laboratory seven sacks of samples via Alaska Railroad on GEL I 504158. The total weight of the shipment is 490 pounds. Identification tags are attached to the outside of the sacks and duplicates have been placed inside.

Test request sheets are enclosed with this letter. Results of the tests are to be submitted to our Juneau Office in triplicate.

Very truly yours,

AEJ/d

Adm E. Jaskar,
Acting Materials Engineer

Encl. 6 test request forms

cc - Fairbanks ✓

No samples were taken on this section of road because of the general similarity to the College Road. If the section is programmed for paving, the design should follow essentially that of the major portion of the College Road.

Ade E. Jaskar,
Acting Materials Engineer

cc: Fairbanks ✓

AET:mj

rock is unsuitable for crushing for satisfactory base course material directly beneath the pavement.

If the gravelly materials from the slough and dredge tailings prove to be unsuitable as bituminous aggregate, even when strip-preventing additives are used, it may be necessary to consider the better rock from Birch Hill as a prospective aggregate. Sample F-5 was taken for testing its quality in this respect.

In the design of the College Road the build-up of the grade as suggested above does not obviate the need for well-maintained drainage ditches which will carry water rapidly to culverts or transverse ditches away from the road. At the time of visit, water was ponded over half of the road at Sta. 192 and many sections of the shallow ditches contained ponded water. A culvert at Sta. 63/60 was running full, with a head of almost 4 feet built up on the north side of the road. In the redesign of the drainage, it should be realized that the small culverts may build up with ice which may remain frozen until the following summer. It is suggested that an overdesign of culvert sizes beyond actual water-carrying requirements may allow more effective drainage.

3. Stees Highway. In a reconnaissance exploration of part of the Steese Highway, six holes were excavated. The road is founded on the same floodplain as the College Road, therefore showed similar foundation conditions. Logs of the holes follow. The mileage shown assumes zero mile at the Noyes Slough bridge.

Hole No.	Road Mile	Depths (Ft.)	Classification		Description and Remarks	Depth to Frost (Ft.)
			Casag.	HRB		
S-1	0.1	0-3.0	SP	A-3	Fine sand, some org. matter	Over 3.0
S-2	0.6	0-1.2	OL	A-5	Organic silt	2.5
		1.2-2.8	SP	A-3	Fine sand	
S-3	0.8	0-1.0	OL	A-5	Organic silt	1.5
		1.0-1.8	SP-Silty	A-3	Very fine sand	
S-4	1.2	0-1.5	OL	A-5	Organic silt	1.0
S-5	1.6	0-2.0	OL	A-5	Organic silt	1.0

Railroad approaches - Same as Noyes Slough approaches.

Sta. 33¹/₅₀ - 212 - 14" select gravel overlain by 4" crushed gravel or rock, and 2" plant mix.

Sta. 212 - End - 10" select gravel, overlain by 4" crushed gravel or rock, and 2" plant mix.

The base courses should be of such gradation that no capillary action is possible and no concentrations of silt occur. Possible sources of borrow materials include dredge tailings at Esther and near Fox, the slate and schist quarry at Birch Hill and dragline operations in the bottoms of the Chena River and the sloughs. Of the latter the closest dragline work to the College Road has been in the Noyes Slough about halfway between Fairbanks and College. About 4,000 cubic yards has been stockpiled and according to the information available there is every reason to expect adequate material of that nature from the slough bottom, though locally lensing out into more sandy phases. The material is fairly well graded from fine micaceous sand to cobbles and boulders. The gravel sizes consist predominantly of rounded quartz particles, but many discoid slate and schist particles are present. Sample F-4 of this material has been submitted to the Army laboratory for testing its suitability for base courses and bituminous aggregate. There is a strong possibility that the quartz particles will not have good adhering qualities with asphalt, particularly cut-back types.

The dredge tailings at Esther and Fox are of similar origin and composition. The tailings from the operations are deposited so that huge piles of coarse fragments are left on the surface, but locally the piles include smaller gravel sizes. There is a reasonable choice in gradation of materials and would involve no clearing, stripping, or other borrow pit preparation. Pit-run material would be suitable for select gravel base, and crushed material would make an excellent base below the pavement. The composition of the particles is principally quartz, therefore may not be ideally suited for bituminous aggregate. Sample F-6 of the material was taken for testing.

The Birch Hill quarry, located within the military reserve, consists of slate and schist dipping steeply southward. The rock is very closely jointed. The weathered surface is finely disintegrated but part of the rock face is moderately hard and solid. The contractors for the FRA contract on the Richardson Highway used the rock for building up from the road. They had hoped to excavate the rock by shovels without

Hole No.	Station	Depths (Ft.)	Classification		Description and Remarks	Frost (Ft.)
			Casag.	HRB		
C-12	203/50	0-0.3	GF-Silty	A-4	Gravelly silt Roots, branches, etc. Silt and sand	1.5
		0.3-0.5				
		0.5-1.9	SF-Silty	A-4		
C-13	211/70	0-1.0	GF	A-1-a	Gravel, crushed rock, some rubbish Possibly bedrock	
		1.0				
C-14	226/15	0-0.2	GW	A-1-a	Crushed rock Silt and sand Silt	
		0.2-1.7	SF-Silty	A-4		
		1.7-2.5	ML	A-4		

The three samples of foundation materials have been submitted to the Corps of Engineer laboratory in Anchorage for testing their quality as foundation material. The results of California bearing ratio tests will give data for determining the minimum thicknesses of base courses plus pavement necessary for the proposed paving. The low elevation of the road with respect to the sloughs and the difficulty of effective drainage would make it costly to remove all of the silt, fine sand and organic material, and replace with pervious sand and gravel, as has been done by the Army at Ladd Field. In any case, however, all peat or highly organic silts should be removed and replaced with pervious material. The soft area at Sta. 127/90 is a case in point.

Assuming for the moment that Sample F-2 will show a bearing ratio of 12, the total thickness of base courses and pavement required for a 9,000 wheel load would be 10 inches. If Sample F-2 has a ratio of 5, the thickness would be 15 inches, and if sample F-3 has a ratio of 8, the thickness would be 12 inches. In the Fairbanks area, these thicknesses should be considered as a minimum because of the depth of the active frost layer. The absence of standards for thicknesses of base course and pavement over permafrost areas makes it necessary then to estimate the thickness on the basis of limited data available. The Corps of Engineers has conducted researches on permafrost problems, but have not made the results of field research available for general use (a field research station is situated near the Steese Highway). On a purely empirical basis, the following combined thicknesses of base courses plus pavement is recommended for the College Road:

Hole No.	Station	Depths (Ft.)	Classification		Description and Remarks	Depth to Frost (Ft.)
			Casag.	HRB		
C-2	34/15	0-0.3	GP	A-1-a	Rounded gravel and sand	
		0.3-0.8	GP	A-1-a	Gravel, some rock fragments	
		0.8-1.1	OL	A-5	Silt and organic matter	
		1.1-1.5	SF-Silty	A-2-4	Silty sand	
		1.5-2.4	GP-Sandy	A-3	Gravelly sand	Over 2.4
C-3	56/30	0-2.4	ML	A-4	Fine sand and silt, some organic matter. <u>SAMPLE F-1</u>	
		2.4-3.0	SP	A-3	Fine Sand	2.8
C-4	69/70	0-0.5	OL	A-5	Organic matter and silt	
		0.5-1.2	ML	A-4	Silt and sand, some organic matter	1.1
		1.2-2.2	SF-Silty	A-4	Silt and sand	
C-5	80/40	0-0.8	OL	A-5	Organic silt. <u>SAMPLE F-2</u>	
		0.8-1.2	ML	A-4	Silt and sand, some organic matter.	
		1.2-2.3	SF-Silty	A-4	Silt and sand	1.2
C-6	97/60	0-0.4	GP-Silty	A-2-5	Silty gravel, some organic matter	
		0.4-1.8	SF-Silty	A-4	Silt and sand	
		1.8-3.0	SP	A-3	Fine Sand	Over 3.0
C-7	113/90	0-0.8	ML	A-5	Silt with organic matter	
		0.8-2.3	SF-Silty	A-4	Silt and sand	1.5
C-8	127/90	0-1.8	Pt	A-8	Peat, wet to 0.8, frozen below 0.8.	
C-9	155/50	0-0.3	GP-Silty	A-2-4	Silty gravel	
		0.3-2.1	ML	A-5	Silt, sand and organic	1.5

File 7D

Nash

June 2, 1949

MEMORANDUM to G. M. Tapley, Chief, Engineering Division

FROM : Ade E. Jaskar, Acting Materials Engineer

SUBJECT: Report of Field trip to the Fairbanks District, May, 1949

1. Following is a report of my field trip to the Fairbanks District, May 16th to 19th. The principal purpose of the trip was to study the soil and materials problem relative to paving the road from Fairbanks to College. An additional study was made of the first two miles of the Steese Highway, which is being under consideration for future paving, according to Mr. Nash.

2. College Road. Almost all of the College Road is founded on the Chena River-Noyes Slough Floodplain. In general, the floodplain is composed of peat, and silt and sand in varying proportions overlying sand and gravel. The depth to the gravel varies from 3 or 4 to more than 10 feet. The major portion of the existing road has been constructed by removing most, but not all, of the peat and organic silt and sand and covered with a thin layer of sand and gravel. In addition, the first half mile has been reinforced with crushed rock. The silty soil is a frost-heaving type, and along with sections high in organic content, contributes to the failures during the spring thaw. Fourteen holes were dug into the roadway, utilizing a spade-equipped jackhammer for penetrating frozen ground. The logs of the holes follows, with the classification given in the Casagrande (modified) system and HRB (modified "A" system) classifications. Most of the locations of holes were chosen particularly as representing sections that had failures at the time of visit.

<u>Hole</u>	<u>Depths</u>	<u>Classification</u>	<u>Description & Depth to</u>			
<u>No.</u>	<u>Station</u>	<u>(Ft.)</u>	<u>Casag.</u>	<u>HRB</u>	<u>Remarks</u>	<u>Frost (Ft.)</u>