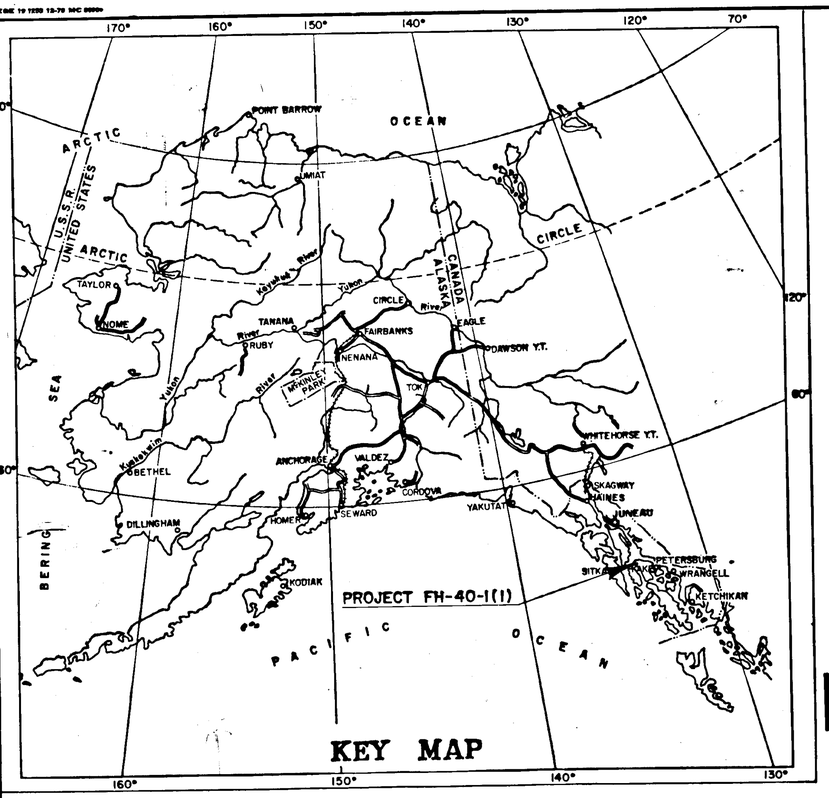
STATE	PROJECT	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1	19



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PLAN AND PROFILE
PROPOSED HIGHWAY PROJECT
KAKE-KEKU ROAD
FERRY TERMINAL TO
BOAT HARBOR

FH-40-1(1) (67518)

GRADING & DRAINAGE

SHEET NO.	INDEX
1	TITLE SHEET
2	TYPICAL SECTIONS
3	ESTIMATE OF QUANTITIES
4-5	SUMMARY TABLES
6-18	PLAN & PROFILE SHEETS
19	MATERIAL SITE

THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT: A-1, C-01.02, C-02.00, C-03.01, D-01.00, D-04.10, ~~D-05.10,~~ G-02.00, G-04.02S, G-14.03S, G-18.01, I-40.00, S-00.00, S-05.00, S-20.00, S-30.01, U-03.00

LOCAL ROADS AND STREETS
DESIGN DESIGNATION

ADT 1987.....259
ADT 2007.....316
DHV (16%).....51
% T.....5%
T.I.....5.5
V.....30

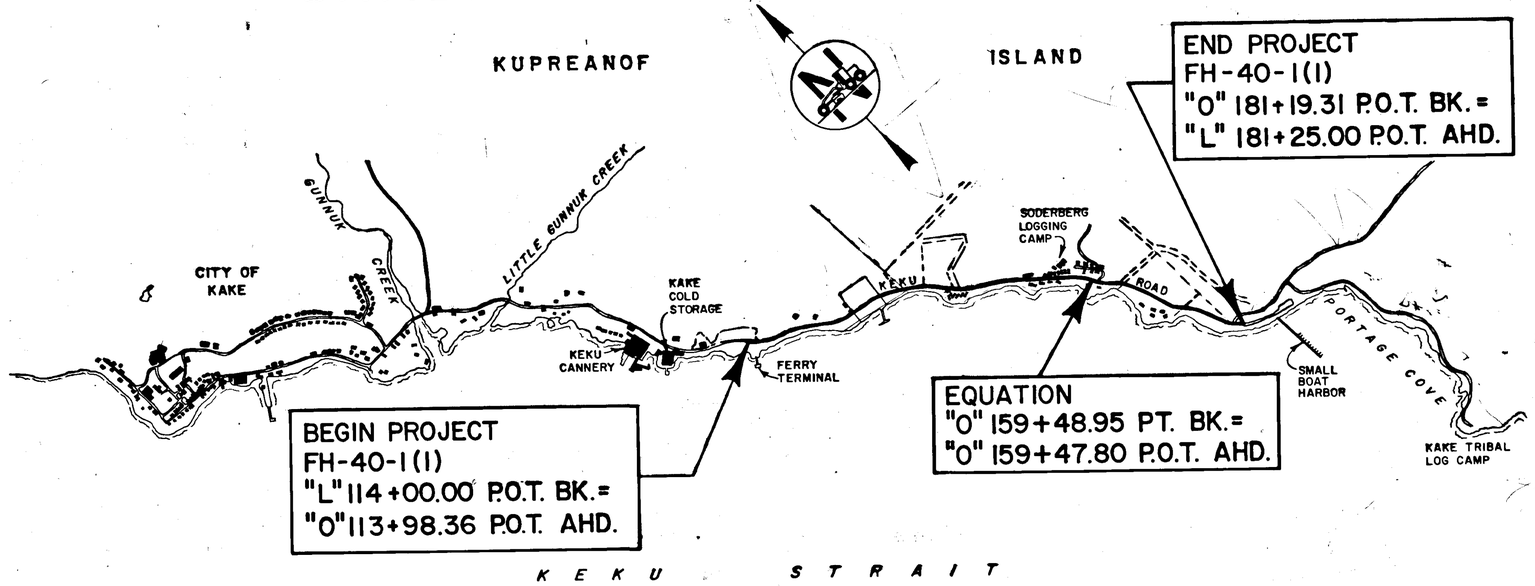
PROJECT SUMMARY

WIDTH OF SUBBASE = 24'
LENGTH OF GRADING = 6722.10 = 1.273 mi.
LENGTH OF PROJECT = 6722.10 = 1.273 mi.

DESIGN EXCEPTIONS

1. USE OF STEEPER THAN USUAL FILL SLOPES THROUGHOUT THE PROJECT.
2. USE OF MODIFIED SUPERELEVATION TRANSITIONS AT STATIONS: "0"151+54, "0"159+58, "0"162+55, "0"170+37, & "0"175+58. (FLAT), 118+03, 156+80, 173+08

EXCEPTIONS WERE GRANTED BY FHWA ON JULY 8, 1986.



AS-BUILT PLANS
APRIL 1988 TO OCTOBER 1988
POOL ENGINEERING - CONTRACTOR
GREG BROWNING PROJECT ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

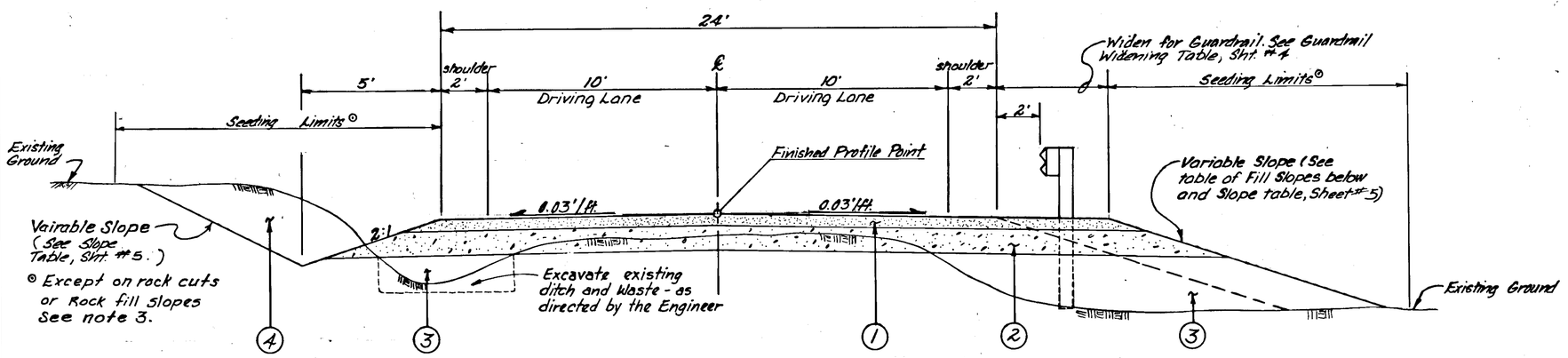
APPROVED
Wallace K Williamson Date 3/5/87
SOUTHEASTERN REGION DESIGN ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

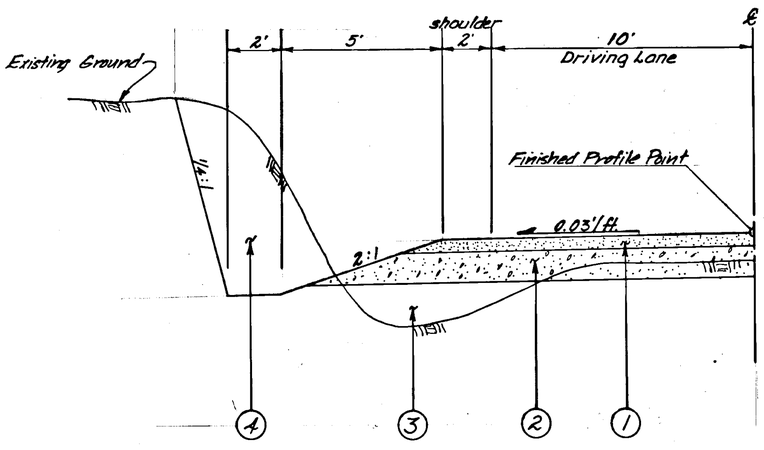
APPROVED
D D Dieckmeyer Date 5-5-8
DIRECTOR, S.E. DESIGN/CONSTRUCTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.
ALASKA	FH-40-1(1)	1987	2

TYPICAL SECTIONS OF IMPROVEMENT



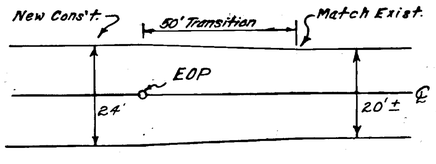
TYPICAL SECTION OF IMPROVEMENT
"0" 115+00.00 to E.O.P. "0" 181+19.31
(For B.O.P. to "0" 115+00 detail, see Sht. 3)



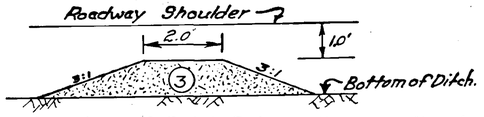
FLAT BOTTOM DITCH TYPICAL
See Slope Table, Sht. #5, for locations of Flat Bottom Ditches.

TABLE OF FILL SLOPES	
Height	Slope
0-5 ft.	3:1
5-10 ft.	2:1
10+ ft.	1½:1

BASIS OF ESTIMATE	
ITEM NO.	QUANTITIES
203(5A)	1.87 Tons per cubic yard
304(2)	1.96 Tons per cubic yard
611 (1)	1.80 Tons per cubic yard

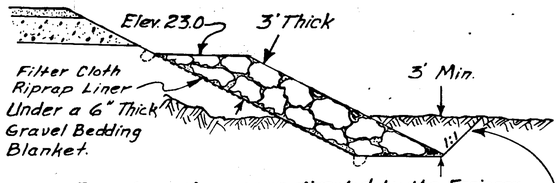


ROADWAY TRANSITION AT EOP



Construction of Ditch Dikes will be as directed by the Engineer. Payment will be incidental to other items of work performed under Sec. 203.

TYPICAL DITCH BLOCK



Excavate as shown, or as directed by the Engineer. Backfill to original ground with material originally excavated, after placement of loose riprap. Extreme High & Low Tides are 19.0 to -4.2 M.L.L.W.

RIPRAP DETAIL

GENERAL NOTES

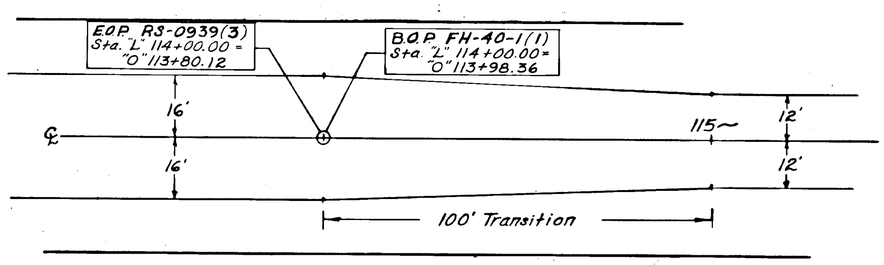
1. Grades and Alignments shown on the Plans are subject to minor revisions by the Engineer.
2. Culvert lengths and locations are subject to minor revisions by the Engineer.
3. Clearing and Grubbing limits shall be 10' beyond the slope limits in cut areas, and 5' beyond the slope limits in fill areas, or to the R/W line, easement line or permit line as directed by the Engineer.
4. All waste material shall be disposed of outside of the R/W limits at a location selected by the Contractor and approved by the Engineer.
5. Superelevation Transition lengths shall be as shown on the plans with the pivot point on centerline. Two-thirds of the Transition Length shall lie outside the Horizontal Curve. There are five tangent sections that are too short to accomodate the superelevation transition length required to return to a standard typical section between reversing curves. In these areas transition from EFS to BFS without going back to the standard crown section between the curves.
6. All common excavation will be considered waste.
7. Electric, Telephone, and Cable Television Utilities are to be reloc by the serving utility during project construction. The Contractor is responsible for the notification of the Utilities and the coordination of the work.
8. The major components of Item 202(1) may include discarded steel cable, equipment parts, junk cars, logs or stumps, heavy equipment, etc.
9. Special ditching may be required at isolated locations to provide proper drainage to culverts. A minimum cover of 1.0 ft. from to of pipe to finish grade will be allowed. Pipe outlets at some locations may be elevated above toe of fill, as allowed by the Engine to avoid steep pipe grades. Ditching will be incidental to Item 203(1).
10. The Filter Cloth Riprap Liner shall meet the requirments of Section 729-2.01. Payment will be incidental to Item 611(1).
11. The Traffic Control Plan for this project shall be accomplished as specified in Standard Drawings C-01.02, C-02.00, & C-03.01.
12. Waterline location is as shown from available information. The Contract shall verify the exact location of the waterline, sewerline or elect conduits prior to any work in the vicinity of these items. Actual depth may be only 1' in some areas.
13. Payment for any cones or warning lights used will be incidental to Item 115(1).
14. Driveways not having profile details shown on the plan & profile sheets require only minimal earthwork, as directed by the Engineer, to meet the proposed roadway.
15. Any relocation of the electric conduit shown near Station "0" 160+5 will be incidental to Item 628(12).
16. Guardrail posts from Station "0" 117+90 to Station "0" 119+50 shall have 8" x 24" x ¼" Soil Plates added as per Standard Drawing G-02.0

LABELING INDEX	
(1)	6" ~~Subbase~~, ~~Grading "D"~~ 6" CRUSHED (C.O.*1)
(2)	18" Minimum, Borrow, Type A *
(3)	Borrow, Type A
(4)	Rock or Common Excavation
◯	
◯	* 6" Minimum in Rock Excavation areas

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	3	19

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	UNIT	SHEET NUMBERS 6	7	8	9	10	11	12	13	14	15	16	17	18	19			TOTAL
109(2)	DBE and WBE Adjustment	C.S.																	All Required
110(2)	Mobilization and Demobilization	L.S.																	All Required
111(1)	Temporary Erosion and Pollution Control	C.S.																	All Required
112(1)	Training Program - 1 Trainee	Man. Hr.																	500
113(1)	Flagging	Man Hr.																	1,000
114(1)	Construction Surveying by the Contractor	L.S.																	All Required
115(1)	Traffic Control	L.S.																	All Required
115(2)	Construction Signs	S.F.																	110
115(3)	Barricades, Type II	Each																	50
116(1)	Furnishing and Maintaining Field Office	L.S.																	All Required
116(2)	Furnishing and Maintaining Field Laboratory	L.S.																	All Required
116(6)	Furnishing and Maintaining Engineering Transportation	L.S.																	All Required
201(2A)	Clearing and Grubbing	Acre																	4
202(1)	Removal of Structures and Obstructions	L.S.																	All Required
202(4)	Removal of Culvert Pipe	L.F.	36	0	152	38	30	184	70	0	34	37	0	30	40				651
203(1)	Common Excavation	C.Y.	544	1277	644	692	473	1988	460	1089	658	189	524	699	335				9,572
203(5A)	Borrow, Type A	C.Y.	1242	357	1986	2154	1528	1073	1368	1063	1893	2066	1001	2133	1385				19,249
203(2)	Rock Excavation	C.Y.		1753															1,753
304(2)	Subbase Grading "D"	C.Y.	197	308	302	305	312	286	269	262	292	245	236	283	174				3,471
603(13-18)	18-Inch Corrugated Aluminum Pipe	L.F.	0	0	82	0	0	0	86	0	0	0	0	0	0				118
603(13-24)	24-Inch Corrugated Aluminum Pipe	L.F.	46	50	130	48	44	0	92	0	0	50	0	0	54				514
603(13-30)	30-Inch Corrugated Aluminum Pipe	L.F.	0	0	0	0	0	0	0	0	65	0	0	65	0				130
603(13-36)	36-Inch Corrugated Aluminum Pipe	L.F.	0	0	0	0	0	102	0	0	0	0	0	0	0				102
606(2)	Beam Type Guardrail, Type II Post	L.F.	350	487.5	450	400	350	0	0	0	437.5	250	0	275	0				3,000
606(6)	End Anchorages	Each	1	0	1	2	2	0	0	0	5	1	0	4	0				16
611(1)	Riprap, Class II	C.Y.					674												674
614(1)	Survey Monuments	Each		1								2							3
615(1)	Standard Signs	S.F.	13.75	0	0	0	0	0	0	0	0	0	0	0	17.50				31.25
618(1)	Seeding	M.S.F.	5.8	12.3	12.8	9.3	10.2	9.9	9.0	17.0	13.1	7.4	8.3	10.1	10.1	5.6			140.9
618(4)	Water for Maintenance	M.Gal.	1.2	2.5	2.6	1.9	2.0	2.0	1.8	3.4	2.6	1.5	2.0	2.0	2.0				27.5
628(7)	Fire Hydrant Relocation	Each	0	0	0	1	0	1	0	1	0	0	1	0	0				4
628(11)	Adjustment of Valve Box	Each	0	0	0	1	0	0	1	0	0	0	1	0	0				3
628(12)	Waterline Adjustments	L.F.						200											200
635(1)	Insulation Board	M.B.M.	0	0	0	.032	.032	.064	.064	0	.064	.064	0	.064	.064				0.448
639(1)	Approaches	Each	1	1	2	1	0	2	1	1	2	0	2	0	1				14



ROADWAY TRANSITION AT B.O.P.

STATE OF ALASKA 4914 Steven O. Bradford No. CE4553 REGISTERED PROFESSIONAL ENGINEER

- 3.1

1353

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	4	19

CULVERT REMOVAL SUMMARY

STATION	LENGTH	STATION	LENGTH
"0" 115+35, ℄	36'	"0" 158+03, ℄	34'
"0" 122+88, ℄	30'	"0" 163+18, ℄	37'
"0" 123+10, 8' Lt.	40'	"0" 173+26, ℄	30'
"0" 123+30, ℄	34'	"0" 179+13, ℄	40'
"0" 126+90, ℄	48'	162 +92	20'
"0" 130+39, ℄	38'	150 +20	36'
"0" 139+06, ℄	30'		
"0" 142+37, ℄	184'		
"0" 148+72, ℄	30'		
"0" 149+10, ℄	40'		

GUARDRAIL SUMMARY

STATION TO STATION		LOCATION LEFT	LOCATION RIGHT	QUANT.	REMARKS
"0" 114+84, 80' ± rt.	"0" 115+00		X	62.5 L.F.	Extend Guardrail 60' ± to 80' ± rt.
"0" 115+00	"0" 127+25		X	1225 L.F.	Rail approx. 23' rt. @ Sta. "0" 115+00
"0" 129+37	"0" 133+37		X	400 L.F.	
"0" 136+00	"0" 139+50 140+00		X	350 L.F.	
"0" 157+55	"0" 159+30	X		175 L.F.	
"0" 157+50	"0" 158+62.5		X	112.5 L.F.	
"0" 160+75	"0" 164+75		X	400 L.F.	
"0" 172+40	"0" 173+77.5		X	137.5 L.F.	
"0" 172+80	"0" 174+17.5	X		137.5 L.F.	

PIPE CONDUIT SUMMARY

STATION	PIPE LENGTH 18"	24"	30"	36"	REMARKS
"0" 115+35, ℄		46'			
"0" 118+50, ℄		50'			
"0" 123+10, 24' LT.	34'				
"0" 123+40, ℄		50'			
"0" 126+75, ℄		80'			Skewed 40°
~~"0" 127+90, 23' Lt.~~	~~48'~~				
"0" 130+40, ℄		48'			
"0" 138+10, ℄		44'			
"0" 142+37, ℄				102'	Skewed 8°
"0" 148+00, ℄		44'			
"0" 149+44, ℄		48			
"0" 150+20, 24' Lt.	36'				
"0" 158+03, ℄			65'		
"0" 164+50, ℄		50'			
"0" 173+26, ℄			65'		
"0" 179+13, ℄		54'			
171+60, 27 LT	46'				

WIDEN FOR GUARDRAIL *

STATION TO STATION		OFFSET LEFT	OFFSET RIGHT	WIDTH OF WIDENING	REMARKS
"0" 115+00	"0" 117+90 87.5		X	4.5'	
"0" 117+90 87.5	"0" 119+50		X	2.5'	See General Note 16.
"0" 119+50	"0" 127+25		X	4.5'	
"0" 129+37	"0" 133+37		X	~~4.5~~ 2.5'	
"0" 136+00	"0" 139+50 140+00		X	4.5'	
"0" 157+55	"0" 159+30	X		4.5'	
"0" 157+50	"0" 158+62.5		X	4.5'	
"0" 160+75	"0" 164+75		X	4.5'	
"0" 172+40	"0" 173+~~77~~ 77.5		X	4.5'	
"0" 172+80	"0" 174+~~17~~ 17.5	X		4.5'	

* The widening shown does not include the additional widening required at end sections. See Standard Drawing 6-14.03 S.

SIGNING SCHEDULE

NO.	STATION	OFFSET LEFT	OFFSET RIGHT	CODE NO.	LEGEND	SIGN Size	SIGN PANEL THICKNESS Framed	SIGN PANEL THICKNESS Unframed	Area-S.F	POST No. of Posts	POST Type	POST Size	POST Length	POST Embedment	FACING TRAFFIC	REMARKS
1	"0" 115+00		25'	R1-1	STOP	30"x30"		.080	6.25	1	PST	2"x2"	11'-0"	3'-6"	NB	
2	"0" 115+75		15'	R2-1	SPEED LIMIT 30	30"x36"		.080	7.50	1	PST	2"x2"	12'-6"	3'-6"	E.B.	
3	"0" 178+50	17'		R2-1	SPEED LIMIT 30	30"x36"		.080	7.50	1	PST	2"x2"	13'-0"	3'-6"	W.B.	
4	"0" 179+95	35'		R1-1	STOP	30"x30"		.080	5.00	1	PST	2"x2"	13'-0"	3'-6"	S.B.	
5	"0" 180+50		17'	W14-2B	END ROAD 500 FT.	30"x30"		.080	5.00	1	PST	2"x2"	13'-0"	3'-6"	E.B.	

55.00 x ℄ = 110.00

APPROACH SUMMARY

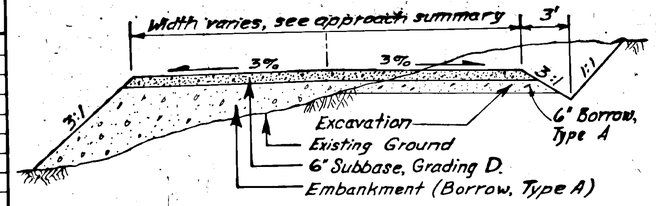
STATION	OFFSET LT.	OFFSET RT.	WIDTH	REMARKS
"0" 114+50		X	30'	Match Existing Drive
"0" 119+66	X		14'	See "A" Line, Sht. # 7.
"0" 123+06.50	X		14'	
"0" 127+87	X		25' 36'	COMMERCIAL DRIVE
"0" 133+75		X	14'	See "B" Line, Sht. # 9.
"0" 142+27		X	30'	See "C" Line, Sht. # 11.
"0" 143+17		X	14'	See "D" Line, Sht. # 11.
"0" 150+18	X		14'	
"0" 151+47	X		14'	
193 +76		X	14'	ADD ON
"0" 160+46		X	24'	
"0" 161+53	X		36'	Commercial Drive
"0" 168+00		X	15'	
"0" 171+39		X	20'	
"0" 180+00	X		24'	Match Existing Drive

WATERLINE ADJUSTMENT SUMMARY

STATION TO STATION		OFFSET LT.	OFFSET RT.	REMARKS
"0" 140+60	"0" 142+60			4' minimum depth of cover. See General Note No. 12, Sht. 2.

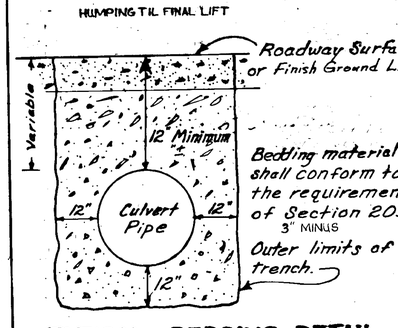
SEWERLINE ADJUSTMENT SUMMARY

STATION TO STATION		OFFSET LT.	OFFSET RT.	REMARKS
				See General Note No. 12, Sht. 2.

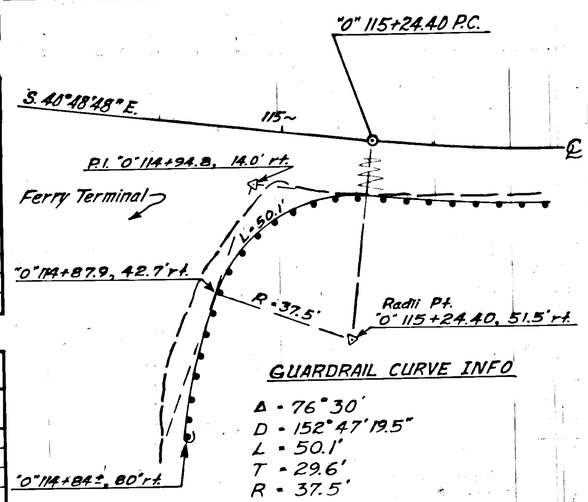


APPROACH ROAD DETAIL

1 Materials required will be paid for at contract bid prices.



TYPICAL BEDDING DETAIL



GUARDRAIL CURVE INFO

Δ = 76°30'
D = 152°47'19.5"
L = 50.1'
T = 29.6'
R = 37.5'

NOTES:

1. Guardrail locations are subject to minor revisions by the Engineer.
2. Guardrail elements used in the curve at the Ferry Terminal shall be shop formed to the radius of 37.5 feet. Four (4) elements are required.

GUARDRAIL DETAIL

STATE OF ALASKA
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

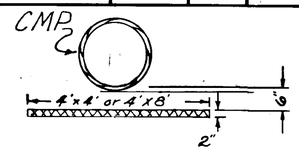
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	5	19

SLOPE TABLE

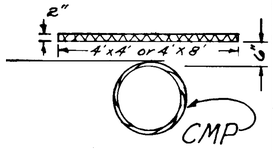
STATION	LEFT FILL SLOPE	LEFT CUT SLOPE FORE	LEFT CUT SLOPE BACK	LEFT WIDTH OF FLAT BOTTOM DITCH
"0"113+98.36		2:1	2:1	
"0"116+50		2:1	2:1	
"0"117+00	3:1			
"0"118+00	3:1			
"0"118+75		2:1	2:1	
"0"119+35		2:1	2:1	
"0"119+75		2:1	1/4:1	2'
"0"122+00		2:1	1/4:1	2'
"0"122+30	3:1			
"0"123+00	3:1			
"0"123+50		2:1	1/4:1	2'
"0"125+25		2:1	1/4:1	2'
"0"125+50		2:1	1 1/2:1	
"0"126+25		2:1	1 1/2:1	
"0"126+50	3:1			
"0"127+50	3:1			
"0"128+00		2:1	2:1	FLATTEN @ S.O.S. STORE
"0"129+50		2:1	2:1	
"0"130+00	3:1			
"0"130+50		2:1	1 1/2:1	
"0"132+50		2:1	1 1/2:1	
"0"133+00		2:1	2:1	
"0"136+50		2:1	2:1	
"0"137+00		2:1	1:1	
"0"137+50		2:1	2:1	
"0"138+00	3:1			
"0"138+50		2:1	1 1/2:1	
"0"144+50		2:1	1 1/2:1	
"0"144+75		2:1	1/4:1	2'
"0"146+75		2:1	1/4:1	2'
"0"147+00		2:1	1 1/2:1	
"0"149+50		2:1	1 1/2:1	
"0"150+00	3:1			
"0"150+50	3:1			
"0"150+75		2:1	2:1	
"0"151+00	3:1			
"0"151+50	3:1			
"0"152+00		2:1	2:1	
"0"152+50		2:1	2:1	
"0"153+00		2:1	1 1/2:1	
"0"157+80		2:1	1 1/2:1	
"0"158+00	2:1			
"0"158+50	3:1			
"0"159+50	3:1			
"0"160+00		2:1	2:1	
"0"162+00		2:1	2:1	
"0"162+25	3:1			
"0"162+75	3:1			
"0"163+00	2:1			
"0"163+50	3:1			
"0"165+75	3:1			
"0"166+00		2:1	2:1	
"0"167+50		2:1	2:1	
"0"168+00	3:1			
"0"169+00	3:1			
"0"169+50		2:1	2:1	
"0"170+75		2:1	2:1	
"0"171+00	2:1			
"0"171+50		2:1	2:1	
"0"172+50		2:1	2:1	
"0"173+00	1 1/2:1			
"0"174+00	1 1/2:1			
"0"174+50		2:1	2:1	
"0"177+50		2:1	2:1	
"0"178+00	3:1			
"0"179+25	3:1			
"0"179+50		2:1	2:1	
"0"181+19.31		2:1	2:1	

STATION	RIGHT FILL SLOPE	RIGHT CUT SLOPE FORE	RIGHT CUT SLOPE BACK	RIGHT WIDTH OF FLAT BOTTOM DITCH
"0"113+98.36		2:1	2:1	
"0"115+50		2:1	2:1	
"0"116+00	1 1/2:1			
"0"119+35	1 1/2:1			
"0"119+75		2:1	2:1	
"0"121+50		2:1	2:1	
"0"122+00	1 1/2:1			
"0"123+50	1 1/2:1			
"0"124+00	2:1			
"0"124+50	2:1			
"0"125+00	1 1/2:1			
"0"125+50	1 1/2:1			
"0"126+00	3:1			
"0"126+50	2:1			
"0"127+50	2:1			
"0"128+00	3:1			
"0"128+50	3:1			
"0"129+00		2:1	2:1	
"0"129+50		2:1	2:1	
"0"130+00	1 1/2:1			
"0"132+50	1 1/2:1			
"0"133+00	2:1			
"0"133+50	3:1			
"0"134+00		2:1	2:1	
"0"136+50		2:1	2:1	
"0"137+00	1 1/2:1			
"0"138+50	1 1/2:1			
"0"139+00		2:1	2:1	
"0"139+50	1 1/2:1			
"0"140+00	1 1/2:1			
"0"140+50		2:1	2:1	
"0"142+00		2:1	2:1	
"0"142+50	3:1			
"0"144+50	3:1			
"0"145+00		2:1	2:1	
"0"148+00		2:1	2:1	
"0"148+50	2:1			
"0"149+50	2:1			
"0"150+00	3:1			
"0"150+70		2:1	2:1	
"0"151+25		2:1	2:1	
"0"151+75	3:1			
"0"154+50	3:1			
"0"155+00		2:1	2:1	
"0"157+40		2:1	2:1	
"0"157+70	1 1/2:1			
"0"158+00		2:1	2:1	
"0"158+50		2:1	2:1	
"0"160+00	3:1			
"0"160+50	3:1			
"0"161+00		2:1	2:1	
"0"161+50	3:1			
"0"162+00	1 1/2:1			
"0"163+00	1 1/2:1			
"0"163+50	2:1			
"0"164+00	2:1			
"0"164+50	3:1			
"0"165+00		2:1	2:1	
"0"165+50	3:1			
"0"166+00		2:1	2:1	
"0"166+50		2:1	2:1	
"0"167+00	3:1			
"0"167+50	3:1			
"0"168+00		2:1	2:1	
"0"168+50		2:1	2:1	
"0"169+00	3:1			
"0"169+50		2:1	2:1	
"0"172+50		2:1	2:1	

STATION	RIGHT (CONTINUED) FILL SLOPE	CUT SLOPE FORE	CUT SLOPE BACK	WIDTH OF FLAT BOTTOM DITCH
"0"173+00	1 1/2:1			
"0"173+50	2:1			
"0"174+00	2:1			
"0"174+50	3:1			
"0"175+00		2:1	2:1	
"0"175+50	2:1			
"0"176+00		2:1	2:1	
"0"177+50		2:1	2:1	
"0"178+00	2:1			
"0"179+00	2:1			
"0"179+50	3:1			
"0"180+00		2:1	2:1	
"0"181+19.31		2:1	2:1	



8" D.I. Water Main



INSULATION BOARD DETAIL

FIRE HYDRANT RELOCATION SUMMARY

REMOVE	OFFSET LT.	OFFSET RT.	INSTALL	OFFSET LT.	OFFSET RT.
"0"129+65	20'		"0"129+65	24'	
"0"142+80	19'		"0"142+80	24'	
"0"152+41	19'		"0"152+41	24'	
"0"169+07	16'		"0"169+07	24'	

VALVE BOX ADJUSTMENT SUMMARY

STATION	OFFSET LT.	OFFSET RT.	REMARKS
"0"129+65	17'		*
"0"129+73	17'		
"0"142+80	14'		*
"0"148+63	7.5'		UNABLE TO LOCATE
"0"152+41	14'		*
"0"167+43	11'		UNABLE TO LOCATE
"0"169+07	16		*

*Incidental to Fire Hydrant relocation.

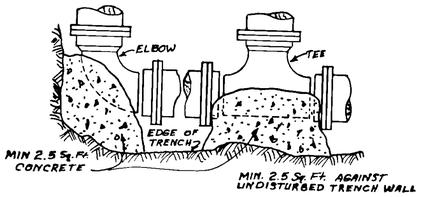
MONUMENT SUMMARY

STATION	OFFSET LT.	OFFSET RT.	REMARKS
"0"121+65	18'		Within Slope Limits
"0"162+50		15'	Bearing Tree
"0"162+75		28'	Within Sope Limits

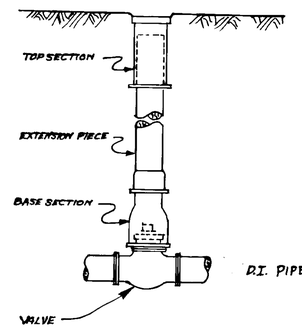
STATE OF ALASKA 49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

WATERLINE DETAILS FOR EXISTING 8" D.I.

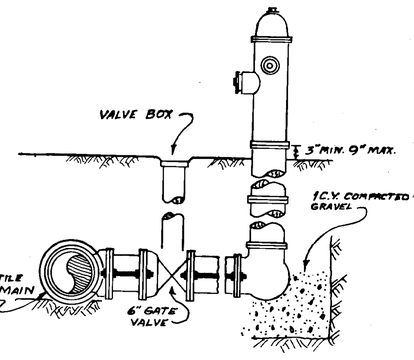
(For Adjustment Information Only)



THRUST BLOCKING
N.T.S.



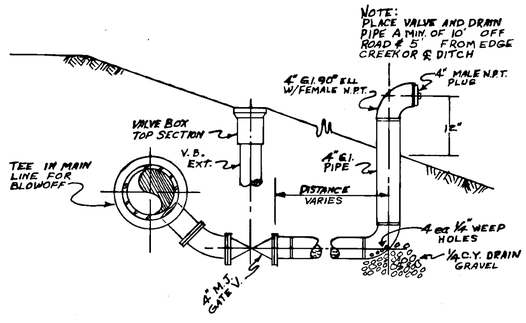
WATER VALVE DETAIL
N.T.S.



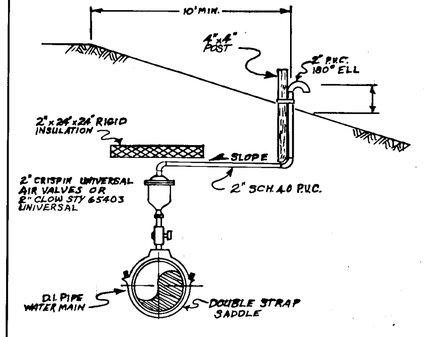
HYDRANT INSTALLATION NOTES

1. HYDRANT BARREL MUST BE INSTALLED PLUMB AND THE LEG MUST BE INSTALLED LEVEL.
2. AUXILLARY GATE VALVE BOX TO BE INSTALLED ACCORDING TO DETAIL FOR TYPICAL VALVE BOX.

FIRE HYDRANT DETAIL
N.T.S.



BLOWOFF ASSEMBLY
N.T.S.



AIR RELIEF VALVE DETAIL
N.T.S.

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	6	19

VERTICAL CONTROL

The basis of Vertical Control for this project was N.O.S. Tidal Bench Mark No. 4, Kake, Keku Strait, 1962, with a published elevation of 14.51 M.L.L.W. (1964 Mean Value).
Bench Mark is a standard disk set in a rock point outcropping, northwest of the Keku Canning Company, located approximately 2,000 feet N.W. of the project B.O.P.

HORIZONTAL CONTROL

The basis of bearing was the line-of-sight between NOS. Station "Kake" and U.S.K.H. Engineers photocontrol point No. 61 (1981), with an A.S.P. Grid Bearing of S. 53°06'10"E., based on the following accepted values:

U.S.C. and G.S. "Kake" (1927)	Lat. 56° 58' 26.945" N. Long. 133° 56' 57.815" W. (Y) 1,877,872.15 N. (X) 2,629,236.43 E.
U.S.K.H. No. 61 (1981)	Lat. 56° 57' 42.495" N. Long. 133° 55' 08.529" W. (Y) 1,873,337.785" N. (X) 2,635,276.252" E.

"0"
Δ = 31°47'38"
D = 14°15'00" Lt.
T = 114.51
L = 223.11
R = 402.08'
S = 5.5%
T.L. = 153.00'
BFS = "0" 115+75
EFS = "0" 116+97

"L"
Δ = 33°28'00"
D = 13°37'15" Lt.
T = 126.47'
L = 245.70'
R = 420.65'

"0" 115+24.40 P.C.
"0" 117+47.52 P.T.
"L" 116+39.93 P.T.
"0" 116+38.92 P.I.
Sta. "0" 115+24.40 45.00' Rt.
Sta. "0" 117+44.45 42.02' Rt.
"0" 114+84, 80'± Rt. Begin Guardrail See detail on Sht. 4.
"0" 115+35 & Remove & Dispose existing 36" Pipe Conduit.
"0" 115+35 & Install 24"x16" Pipe Conduit.
RIP-RAP
Match Existing
S. 40°48'48" E. - 126.04'
Ferry Terminal Parking
N. 25°05'07" E. 176.56'
Ø
Ø
Sta. 06+41.62 BK. = Sta. 114+24.40 AHD.
S 72°30'26" E ~ 76.64' 11.64
U.S.C. & G.S. "Kake"
Basis of Bearing N. 53°18'40" W. True (S. 55°06'10" E.) Grid
U.S.K.H No. 61 Photocontrol Point

BEGIN PROJECT
FH-40-1(1)
"L" 114+00.00 P.O.T. BK. =
"0" 113+98.36 P.O.T. AHD.

Elev. 29.55
Match Existing
0.798%
+5.692%
Finished Profile
Existing Ground
"0" 115+95.00 V.P.I.
Elev. 28.00, 200 V.C.

STATE OF ALASKA 49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

KEUFFEL & ESSER A KI&E/DIS Company PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	7	19

Sta "O" 118+40 ± Lt. Construct Ditch Block.

"L"
Δ = 22°25'21"
D = 25°19'58" Rt.
T = 44.83'
L = 88.51'
R = 226.17'

"A" 10+60.60 P.I.

"L" 119+36.83 P.I.

"A"
Δ = 90°00' Rt.
T = 55.13'
L = 51.84'
R = 30.00'

Construction Permit

"O" 120+89.37 P.I.

S 57°11'46" E. ~ 105.29'

"A" 11+80.00 Match Existing

NEW PROPERTY MONUMENT TO REPLACE OLD WHICH WAS IN PROJECT LIMITS

"L" 122+31.83 P.T.

R/W

"O" 117+90

Match Line

S 72°36'26" E ~ 76.64'

2.5' WIDENING FOR GUARDRAIL

"O" 119+66.00 P.O.C. = "A" 10+00.00 P.O.T.

N 23°48'14" E 24.81'

120'~

"L" 120+19.99 P.T.

"O" 118+85.16 P.C.

"O" 118+50, R. Install 24" CSP Pipe Conduit.

"O" 119+50 Lt. Special Ditching for drainage may be required around approach.

"L"
Δ = 6°34'37"
D = 10°31'14" Lt.
T = 31.29'
L = 62.51'
R = 544.57'

Meander Line

"O"
Δ = 24°27'27"
D = 4°42'00" Rt.
T = 264.21
L = 520.37
R = 1219.06'
S = 3.0%
TL = 108'
BFS = 118+61
EFS = 123+09

T.B.M. "A" Spike in Power Pole Lt. of Sta. 122+70. Elev. 26.42

Sta. "O" 122+19.93
48.92' Rt.

"L"
Δ = 6°53'31"
D = 12°35'10" Rt.
T = 35.73'
L = 71.31'
R = 455.23'

"A" 11+55, V.P.I.
Elev. 53.00, 50' V.C.

"O" 122+20.00

STATE OF ALASKA 49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

"O" 118+20.00 V.P.I.
Elev. 46.50, 400' V.C.

+5.692%
-3.000%

Existing Ground

Finished Profile

"O" 123+20.00 V.P.I.
Elev. 26.50, 400' V.C.

-3.000%
+5.897%

5 Match Existing 8.0%

Existing Ground

+9.83%

"O" 119+66 P.O.C.
"A" 10+00 P.O.T.
Elev. 41.03

"A" 10+47 V.P.I.
Elev. 42.38, 50' V.C.

"A" LINE

Excavation	=	881 Cu. Yd. (500 Rock)
Grading D	=	44 Cu. Yd.
Borrow A	=	50 Cu. Yd.

118~ 119~ 120~ 121~ 122~ 123~

KEUFFEL & ESSER A KALTOS Company PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	8	19

Provide Drainage Ditch if Necessary 50' LEFT, 1' WIDE @ 1' DEEP

"0" 123+10.8 Lt. Remove & Dispose existing 40' Pipe conduit.

"0" 123+10.24 Lt. Install 18"x34' Pipe Conduit.

"0" 122+80

25'R

35'R

R/W

Sta. "0" 124+05.00
23.19' Lt.

"L"
Δ = 28°13'31"
D = 11°53'14" Lt.
T = 121.18'
L = 237.44'
R = 481.99'

"0"
Δ = 29°51'37"
D = 14°19'26" Lt.
T = 106.66'
L = 208.46'
R = 400.00'
SS = 5.5%
TL = 153'
BFS = "0" 125+63
EFS = "0" 126+70

"0" 126+75 Lt. Install 24"x82' Pipe Conduit.

"0" 126+00 Lt. Remove & Dispose existing 18" Pipe conduit.

Coaday Street
Sta. "0" 126+90 ± Lt.
Construct Ditch Block.

"0" 127+90, 23' Lt.
Install 18"x48'
Pipe Conduit

Construction Permit

25'R

DELETED

24'R

+17'

Sta. "0" 128+00

North Line

R/W

"0" 127+20.53 P.T.

"0" 125+12.07 P.C.

SLOPE STEEPENED TO PREVENT GOING OVER ROW LIMITS

S. 78°00'36" E - 168.78'

Easement

Matth Line

S. 48°08'59" E - 166.54'

RIP-RAP @ OUTLET

"0" 123+45.53 P.T.

125+

126+00

MOVED

125+62

Sta. "0" 124+47.0
32.89' Rt.

Sta. "0" 127+45.82
40.12' Rt.

"L" 126+12.56 P.I.

"0" 126+18.73 P.I.

Sta. "0" 125+99.05
56.42' Rt.

"0" 127+25, Rt.
End Guardrail

"0" 122+60, Lt. Remove & Dispose existing 30' pipe conduit.

"0" 123+30, Rt. Remove & Dispose existing 34' pipe conduit.

"0" 123+40, Rt. Install 24"x50' Pipe Conduit.

Meander Line

Meander Line

STATE OF ALASKA
49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

"0" 127+10.00 V.P.I.
Elev. 4950.220' V.C.

+1.11%

Finished Profile

Existing Ground

+5.89%

-5.00%

"0" 123+20.00 V.P.I.
Elev. 2630.400' V.C.

55
50
45
40
35

123+ 124+ 125+ 126+ 127+ 128+

KEUFFEL & ESSER
A KRATOS Company

PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	9	19

Store

Restaurant

Sta. "0" 129+65, 20' Lt. Relocate Fire Hydrant to 24' Lt.

Sta. "0" 129+73, 17' Lt. Adjust Valve Box

"0" 130+37 ℄ Remove & Dispose existing 36" pipe conduit.

"0" 130+40 ℄ Install 24"x48" Pipe Conduit Insulate Water Line

FIRE HYD.

VALVE & RISER 6" MJ × MJ

FL PLUG WITH 4" 90° RED. TO 1" CORP.

8" DI — FL × FL — MJ × MJ (VALVE (BURIED)) — FL × FL — FL × FL — 8" DI (VALVE & RISER)

1'-9" — 6'

Benson Street

"0" 133+09.58 P.I.

"L" 133+12.92 P.I.

Easement

R/W

FLATTEN DITCH FOR STORE APPROACH

Construction Permit

WL CLOSE TO DITCH

Existing 8" D.I. See note 12, Sht. 2

S 78°00'36" E ~ 168.76'

"0" 131+89.31 P.C.

Shed

Match Line

"0" 128+50

"0" 134+00

N 73°44' W 4.0'

15' R

20' R

"B" 10+57 Match Existing

"B" 10+37.0 P.I.

Construction Permit

"0" 129+37 Begin Guardrail

"0" 133+37 End Guardrail

"0"	
Δ	27°02'58"
D	11°27'33" Rt.
T	120.27'
L	236.05'
R	500.00'
S	5.1%
TL	147'
BPS	"0" 132+38
EPS	"0" 133+76

"L"	
Δ	32°19'05"
D	12°52'32" Rt.
T	104.04'
L	204.40'
R	445.00'

"B"	
Δ	73°00'
T	22.2'
L	38.2'
R	30.0'

STATE OF ALASKA 4918 Steven O. Bradford No. CE4553 REGISTERED PROFESSIONAL ENGINEER

"B" 10+22 Angle Pt. No V.C. Elev. 41.2 -5.1%

"B" 10+57 Match Existing Ground. Elev. 37.0

-12.3%

Existing Ground

"0" 133+75 P.O.C. "B" 10+00 P.O.T. Elev. 42.3

Borrow A = 30 Cu. Yd.

Grading "D" = 15 Cu. Yd.

Scale: V = 1" = 10'

H = 1" = 10'

"B" 10+50

"B" 10~

"0" 131+60.00 V.P.I. Elev. 54.50, 200' V.C.

+1.1N%

Finished Profile

Existing Ground

Exist. 8" DI Depth unknown See note 12, sheet 2.

Insulate Water Line

-5.71%

55 50 45 40 35 30 40 30

130~ 131~ 132~ 133~ 134~

KEUFFEL & ESSER A KRATOS Company PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	10	19

USS 38
Block 6
Lot 2

℄ TO 8" DI WATER 10'5"
℄ TO 6" VALVE 19'
℄ TO 4" RISER 22'

137+50
Sta. "0" 136+25 Rt.
Begin Riprap,
Top Elevation 23 ø.

"0" 137+62, 15' Lt.
Adjust air relief valve
BLOW OFF

"0" 138+06, ℄ Install
24"x24" Pipe Conduit
45°

"0" 138+06, ℄ Remove
& Dispose existing
30" pipe conduit

Sta. "0" 140+00, Rt.
End Riprap,
Top Elevation 23 ø.

"L" 138+89.48 P.I.
"0" 138+83.59 P.I.

Creek

R/W

Waterline Air Relief Valve

Existing 8" D.I. See note 12, Sht. 2

Sta. "0" 135+10.00
18.87' Lt.

"0" 134+00

Match Line

135~

S. 50°57'58" E. ~ 254.17'

138~

139~

"0" 136+79.53 P.C.

"0" 134+25.36 P.T.

Meander Line

Sta. "0" 136+23.00
35.48' Rt.

Sta. "0" 137+40.54
39.22' Rt.

Sta. "0" 138+36.79
34.96' Rt.

Sta. "0" 139+14.05
26.32' Rt.

"0" 140+00

Match Line

"0" 130+00 Ft.
Begin Shoreline

"0" 137+54 Ft.
End Shoreline

"T.B.M. "B" Spike in Power Pole
Rt. of Sta. 138+00. Elev. 21.34.

"L"

Δ = 16°31'11"
D = 5°05'23" Rt.
T = 163.42'
L = 324.58'
R = 1125.73'

"0"

Δ	16°35'08"
D	1°05'53" Rt.
T	204.06'
L	405.27'
R	1400.02'
S	3.0%
TL	108'
BFS	"0" 137+16
EFS	"0" 140+49

STATE OF ALASKA
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

-5.71 ø%

Finished Profile

Existing Ground

Existing 8" D.I., depth unknown, See note 12, Sheet 2.

+3.50 ø%

Insulate Water Line

"0" 137+90.00 V.P.I.
Elev. 18.50, 420' V.C.

134~ 135~ 136~ 137~ 138~ 139~ 140~

KEUFFEL & ESSER A KRATOS Company PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	11	19

Sta. "D" 140+60 to Sta. "D" 142+60, Lower waterline as required to maintain 4' minimum depth of cover.

"D" 142+39, E. Remove & Dispose 2"- existing 8" pipe conduits.

"D" 144+37, E. Install 36"x.102" Pipe Conduit.

Sta. "D" 142+80, 19' Lt. Relocate Fire Hydrant to 24' Lt.

"Z"
Δ = 23°06'47"
D = 13°42'17" Lt.
T = 85.23'
L = 168.16
R = 418.07'

"O"
Δ = 23°58'13"
D = 11°27'33" Lt.
T = 106.15'
L = 209.18'
R = 500.00'
S = 5.1%
TL = 147'
BTS = "O" 142+90
EFS = "O" 144+01

11'
6"MJ x MJ VALVE & RISER
8"x6" MJ x MJ TEE
8"W
19.5' FH 90°

"O" 140+00
"O" 140+84.80 P.T.
"O" 142+41.11 P.C.
"O" 144+50.29 P.T.
"O" 145+50
North Line
R/W
RIP-RAP INLET
Existing 8" D.I. See note 12, Sht. 2
S. 34°22'30" E. ~ 152.31'
S. 58°20'43" E. ~ 232.26'
APPROACH & TURN OUT (POOLE FURNISHED)
Trailer
"C" 10+56.8 Match Existing
"C" 10+33.0 P.I.
"C" Δ = 68°30' T = 10.9' L = 19.1' R = 16.0'
Construction Permit
Easement
RIP-RAP
"O" 142+27 P.O.T. = "C" 10+00 P.O.T.
"O" 143+17 P.O.C. = "D" 10+00 P.O.T.
"O" 143+49.26 P.I.
"L" 143+49.66 P.I.
NEW DRIVEWAY STA 143+76
"D" 10+39 Match Existing
Easement
Meander Line

36" CAP
7'
6'
8" DIW
2" VALVE
WATER SERVICE
STA 142+44
1½" VALVE
66'
45½°
24'
POWER POLE
POWER POLE
54'
TRLR.

"C" 10+00 P.O.T. = "O" 142+27 P.O.T. Elev. 31.95
Borrow A = 37 Cu. Yd.
Subbase, Grading "D" = 18 Cu. Yd.
+5.5% -12.2% -13.7%
"C" 10+56 Match Existing
30
20
"C" 10+00 +12 +22 +50

"D" 10+00 P.O.T. = "O" 143+17 P.O.C. Elev. 30.20
Borrow A = 12 Cu. Yd.
Subbase, Grading "D" = 8 Cu. Yd.
+5.1% -12% -13.2%
"D" 10+39 Match Existing
30
20
"D" 10+00 +12 +22 +39 +50

"O" 141+30.00 V.P.I. Elev. 33.80, 200' V.C.
Existing Ground
+4.500%
-1.905%
Finished Profile
Insulate Water Line
Existing 8" D.I., depth unknown, see note 12, sheet 2.

40
35
30
25
20

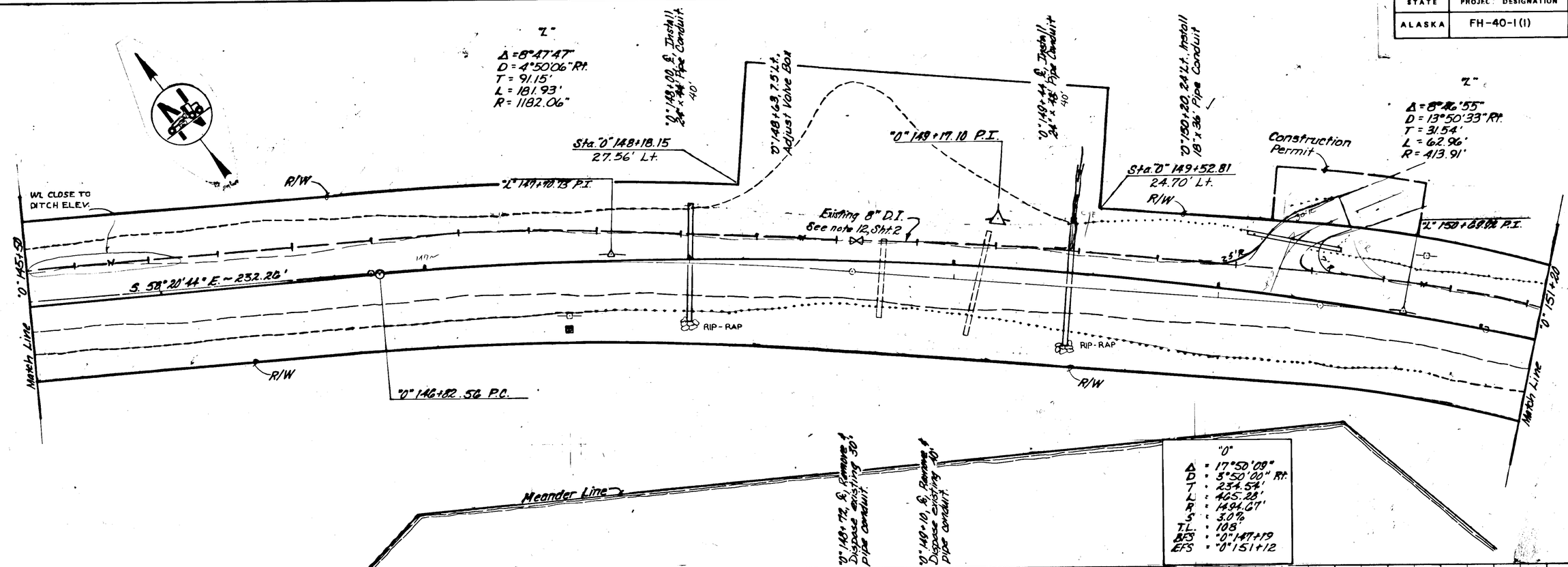
140~ 141~ 142~ 143~ 144~ 145~ 146~

STATE OF ALASKA 49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

KEUFFEL & ESSER A KRAUS Company

PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	12	19



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	13	19

"L"
Δ = 8°21'00"
D = 7°15'08" Lt.
T = 57.67'
L = 115.14'
R = 790.04'

"O"
Δ = 13°22'40"
D = 2°45° Lt.
T = 244.54'
L = 486.47'
R = 2083.48'
S = 3.0%
T.L = 90'
BFS = "O" 151+91
EFS = "O" 156+18

Sta. "O" 152+41, 19' Lt.
Relocate Fire Hydrant
to 24' Lt.

Construction Permit

Match Exist

6" DI WATER 7'6" ℄ TO ℄ VALVE 2'6" ℄ TO FH 25' 4"

R/W

"L"
Δ = 4°33'15"
D = 22°36'07" Lt.
T = 10.08'
L = 20.15'
R = 253.50'

Sta. "O" 155+01.50
37.44' Lt.

"O" 156+47.74 P.T.

ROCK IN BANK
155+50 TO 156+75

"O" 156+75

"O" 157+20

Match Line

S. 40°30'35" E.
~13.42'

See note 12, Sht 2
Existing 8" D.I.

8" PVC Sanitary Sewer
See note 12, Sht 2

"L" P.I. 152+46.19

Buried Commcable

"L" 156+28.93 P.I.

Easement

"O" 151+47.85 P.T.

"O" 151+61.27 P.C.

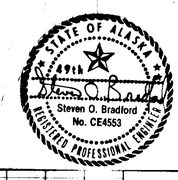
Trailer

Lean-to

To be removed from R/W by others.

"O" 154+05.61 P.I.

Meander Line



"O" 152+00.00 V.P.I.
Elev. 32.00, 300' V.C.

-2.222%

Finished Profile

1.000%

Existing 8" P.V.C. Sewer Line
Approximate Location

Existing Ground

Existing 8" D.I.,
depth Unknown,
see note 12, Sheet 2.

35 30 25 20

152~ 153~ 154~ 155~ 156~ 157~

KEUFFEL & ESSER
A KRATOS Company

PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	14	19

Sta."0" 157+38.17
29.59' Lt.

Easement

RIPRAP

"0" 158+52.64 P.I.

"L" P.I. 158+54.67

R/W

2' BELOW ORIGINAL PRE CONSTRUCTION ROAD GRADE

Soderberg's Office & Canteen

Porch

Existing 8" D.I. See note 12, Sht. 2

Electric Conduit, (1' deep)

"0" 160+17.72 P.C.

Buried Commcable

S. 53°53'15" E. ~ 101.50'

8" PVC Sanitary Sewer See note 12, Sht. 2

RIP-RAP

R/W

Construction Permit

Shed

"0" 162+17.72 P.T.

"0" 157+49.24 P.C.

Sta. "0" 158+93.23
25.25' Rt.

EQUATION

"0" 159+48.95 P.T. Bk. = "0" 159+47.80 P.O.T. Ahd.

WLINE @ 17' BURY FROM DITCH BOTTOM

Match Line

R/W

Sta."0" 157+76.92
29.72' Rt.

3/4" Copper Water Line, ± 2' Deep

Trailer

8" Plastic Sewer Line (Near Surface)

Construction Permit

"0" 161+20.54 P.I.

Oil Tanks

R/W

"L" P.I. 161+49.91

Match Line

Meander Line

"0"
Δ = 32°45'04"
D = 16°22'32" Lt.
T = 102.92'
L = 200.00'
R = 349.89'
S = 5.8%
TL = 159
BFS = 160+71
EFS = 161+65

"0"
Δ = 56°37'20"
D = 15°20'14" Rt.
T = 103.40'
L = 190.71'
R = 312.46'
S = 6.0%
TL = 162
BFS = "0" 158+03
EFS = "0" 158+95

"L"
Δ = 53°12'04"
D = 21°12'25" Rt.
T = 80.72'
L = 156.88'
R = 270.18'

"L"
Δ = 34°34'28"
D = 33°53'00" Lt.
T = 52.63'
L = 102.04'
R = 169.10'

"0" 157+50 Rt. Begin Guardrail

"0" 157+55 Lt. Begin Guardrail

"0" 158+03 R. Remove & Dispose existing 34" Pipe Conduit

"0" 158+03 R. Install 30"x65' Pipe Conduit

"0" 158+62 Rt. End Guardrail

"0" 159+30 Lt. End Guardrail

"0" 160+75 Rt. Begin Guardrail

STATE OF ALASKA
4911
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

T.B.M. "C" PK Nail in 24" Spruce Tree
5' Rt. of Sta. 158+20 Elev. 25.71

"0" 160+80.00 V.P.I.
Elev. 34.30, 250' V.C.

2.952 %

+2.904 %

-2.095 %

Finished Profile

Existing Ground

"0" 158+00.00 V.P.I.
Elev. 26.00, 250' V.C.

Insulate Water Line

Existing 8" D.I., depth unknown, see note 12, sheet 2.

EQUATION

"0" 159+48.95 P.T. Bk. = "0" 159+47.80 P.O.T. Ahd.

35

30

25

20

157~

158~

159~

160~

161~

162~

KEUFFEL & ESSER
A KRAVCO Company

PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	15	19

"L"
Δ = 93°05'51"
D = 10°18'58" Rt.
T = 165.03'
L = 320.83'
R = 555.40'

"L" P.I. 163+90.79

"O" 164+18.62 P.I.

Easement

R/W

Existing 8" D.I. - See note 12, Sht 2

"O" 162+12.25

S. 50°00'59" E. ~ 73.59'

163~

164~

165~

166~

"O" 167+00

S. 21°26'51" E. ~ 283.15'

RIP-RAP

Sta. "O" 163+97.40
28.45' Rt.

"O" 165+40.63 P.T.

R/W

Match Line

Bearing Tree

"O" 162+91.31 P.C.

Sta. "O" 162+54.95
37.55' Rt.

"O"
Δ = 28°34'09"
D = 11°27'35" Rt.
T = 127.31'
L = 249.32'
R = 500.00'
S = 5.1%
T.L. = 147
BFS = "O" 163+40
EFS = "O" 164+92

"O" 163+18.8, Remove & Dispose existing 37' pipe conduit.

"O" 164+53.35, Install 24" x 50' pipe Conduit.

"O" 164+75 Rt. End Guardrail.

STATE OF ALASKA
49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

-2.095%

+1.827%

Finished Profile

Existing Ground

Insulate Water Line

"O" 165+00.00 V.P.I.
Elev. 25.50, 300' V.C.

Existing 8" D.I., depth unknown, see note 12, sheet 2.

35
30
25
20

162~ 163~ 164~ 165~ 166~ 167~

KEUFFEL & ESSER
A KRATUS Company
PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	16	19

Sta. "0" 167+43, 11' Lt., Adjust Valve box

6"DI
MJ x MJ VALVE
6"DI
3'±"
MJ x MJ TEE
8"DI
8"DI

Sta. "0" 169+07, 16' Lt., relocate Fire Hydrant to 24' Lt.

"Z"
Δ = 13°04'55"
D = 9°09'22" Rt.
T = 71.75'
L = 142.88'
R = 625.76'

"Z"
Δ = 31°39'43"
D = 20°32'07" Lt.
T = 79.12'
L = 154.18'
R = 279.01'

"0"
Δ = 28°07'44"
D = 14°03'52" Lt.
T = 102.85'
L = 200.00'
R = 407.38'
S = 5.5%
T.L. = 153'
BFS = "0" 171+03
EFS = "0" 172+01

WL CLOSE TO DITCH

"0" 169+24.01 P.I.

"L" P.I. 169+61.40

"0" 170+52.33 P.C.

"0" 167+00

"0" 172+00

Match Line

R/W

See note 12, Sht. 2

Existing 8" D.I.

S. 21°26'51" E. ~ 283.15'

~170~

S 11°57'24" E ~ 28.55

"0" 168+25.78 P.C.

"0" 170+25.78 P.T.

Construction Permit

Note: WATER LINE 9 Ft. FROM CENTER LINE 2½ Ft. DEEP AT STA. 167+43

"0"
Δ = 9°20'27"
D = 4°44'44" Rt.
T = 100.23'
L = 200.00'
R = 1207.36'
S = 3.3%
T.L. = 114'
BFS = "0" 168+64
EFS = "0" 169+86

"L" P.I. 171+46.75

INSTALLED 18" x 46' CAP

Buried Commcable

"0" 171+54.38 P.T.

Construction Permit

STATE OF ALASKA
49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

Finished Profile

Existing Ground

+ 1.86%

- 5.50%

"0" 170+20.00 V.P.I.
Elev. 35.00, 200' V.C.

Existing 8" D.I., depth unknown, see note 12, Sheet 2.

35
30
25
20

167~ 168~ 169~ 170~ 171~ 172~

KEUFFEL & ESSER A KRATOS Company PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	17	19

"0" 172+80 Lt., Begin Guardrail.

"0" 173+20, Rt. Remove & Dispose existing 30" pipe conduit. 07

"0" 173+88, Rt. Install 30" CMP Pipe Conduit. 73

"0" 173+40, 13' Lt., Adjust Air Valve.

4" GALV. 90° 90° 2' FL=4 THREAD 13 4"DIA. 8" DIA.

"L"
Δ = 23°16'23"
D = 15°01'44" Rt.
T = 78.51'
L = 154.85'
R = 381.29'

"0" 174+18, Lt., End Guardrail.

WL CLOSE TO DITCH

"0" 174+59.09 P.I.

"0" 175+58.16 P.C.

℄ TO VALVE = 82'
¾" COPPER SUC

"0" 176+29, 16' Lt., Adjust Water Service Pipe.

"0"
Δ = 82°17'
D = 5°26'21" Lt.
T = 245.01'
L = 481.45'
R = 1053.39'
S = 3.5%
Flat = "0" 175+58.00
BFS = "0" 176+21.00
EFS = "0" 180+08.00
T.L. out = 100.00'

Sta. "0" 172+76
30.05' Lt.

"0" 172+52.33 P.T.

RIP-RAP

Sta. "0" 173+56
29.95' Lt.

"L" P.I. 174+64.11

Existing 8" D.I. See note 12, Sht. 2

175~

S. 16°34'03 E.
~ 1.49'

R/W

Water Service Pipe

S. 40°05'08" E. ~ 105.34'

Sta. "0" 173+99.52
28.80' Rt.

"0" 173+57.07 P.C.

"0" 175+57.67 P.T.

"L" P.I. 176+34.60

R/W

Match Line "0" 172+00

Match Line "0" 177+50

R/W

Sta. "0" 172+82
29.96' Rt.

"0" 172+40, Rt. Begin Guardrail.

T.B.M. "D" Nail in Stump, 25' Rt. of Sta. 172+40. Elev. 29.29.

"0" 173+78, Rt. End Guardrail.

"0"
Δ = 83°31'05"
D = 11°45'38" Rt.
T = 101.42'
L = 139.99'
R = 487.24'
S = 5.1%
T.L. = 14.7
BFS = "0" 174+07
EFS = "0" 175+09

"L"
Δ = 11°00'46"
D = 17°42'28" Lt.
T = 31.19'
L = 62.19'
R = 323.56'

STATE OF ALASKA 4911 Steven O. Bradford No. CE4553 REGISTERED PROFESSIONAL ENGINEER

Elev. 30.10

"0" 176+20.00 V.P.I. Elev. 38.00, 200' V.C.

+2.50%

+4.60%

-3.50%

Finished Profile

Existing Ground

"0" 173+20.00 V.P.I. Elev. 24.50, 320' V.C.

Insulate Water Line

Existing 8" D.I., depth unknown, see note 12, sheet 2.

35 30 25 20

173~ 174~ 175~ 176~ 177~ 178~

KEUFFEL & ESSER A KRATOS Company PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	18	19

"O"
Δ = 26°11'13"
D = 5°26'21"
T = 245.01'
L = 481.45'
R = 1053.39'
S = 3.5%
T.L. = 117'
BBS = "O" 176+98
EFS = "O" 180+02

"Z"
Δ = 14°15'14"
D = 37°10'39" Lt.
T = 19.27'
L = 38.34'
R = 154.11'

"O" 179+43.43 Remove & Dispose existing 48" pipe conduit.

"O" 179+13.43 Install 24" x 36" Pipe Conduit. SS

"O" 177+43.43

Match Line

"O" 178+04.16 P.T.

R/W

Match existing

0+60

"O" 180+40.61 P.T.

50' R.

Existing 8" D.I. — See note 12, Sht 2

S 12°45'16" E ~ 78.70

"L" P.I. 179+24.43

END PROJECT
FH-40-1(1)
"O" 181+19.31 P.O.T. BK.=
"L" 181+25.00 P.O.T. AHD.

STATE OF ALASKA 49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER

T.B.M. "E" Spike in Power Pole 35' left of Sta. 185+65. Elev. 23.09.

Existing Ground

-2.305%

Finished Profile

Match Existing

Insulate Water Line

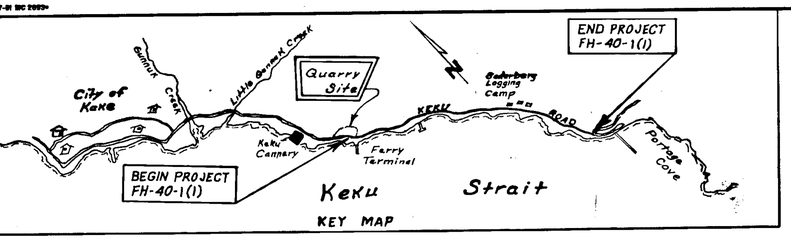
Existing 8" D.I., depth unknown, see note 12, sheet 2.

40
35
30
25
20

177~ 178~ 179~ 180~ 181~ 182~ 183~

KEUFFEL & ESSER A KRATOS Company PLATE 1, PLAN-PROFILE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH-40-1(1)	1987	19	19



NOTES:

1. No work shall be performed in any area of the site other than on lands owned by the State of Alaska.
2. All work in the quarry shall be performed from the top to the bottom.
3. Stripping of the existing overburden shall extend a minimum of 15' beyond top of quarry. The overburden slopes shall be graded 1½:1. All overburden and organic material encountered in this sourse shall be disposed of in the Contractor furnished disposal area.
4. Maximum bench height shall be 30', minimum bench width shall be 30'.
5. Upon completion of work in the quarry, the quarry floor shall be left in such a manner so as not to impede the flow of water. Remaining overburden in stripped areas will be seeded.
6. Any existing processed material within the pit area is owned by others.
7. For additional information, see the Materials Report for this project dated November 2, 1987.

Location sampled / and sample number.

U.S.S. 3852

Approximate Existing Excavation Limits

QUARRY

City of Kake

S. 56° 10' 45" E. 769.40' to Prop. Cor.

(S. 56° 24' 47" E.) 822.00' to Prop. Cor.

R/W Limits

State of Alaska D.O.T./P.F.

State R/W limits

105° 21' 57"

Sta. "0" 113+98.37, 135.92' Lt., Computed tie to Prop. Line, Not field staked.

SITE

N. 49° 11' 12" E. 135.92'

State of Alaska DOT / PF
Materials Site No. 915-003-3

Begin Project FH-40-1(1) "L" 114+00.00 P.O.T. Bk. = "0" 113+98.36 P.O.T. Ahd.

"0" S. 40° 48' 48" E.

R/W offset limits

30'

30'

115 ~

42'

KAKE FERRY TERMINAL

U.S.S. 3852

SURVEY MEANDER LINE
N. 54° 36' 32" W. - 214.70'
(N. 54° 50' 40" W.)

N. 64° 06' 33" W. - 663.69'
(N. 64° 20' 40" W. - 663.73')

A.T.S. 903
State of Alaska
D.O.T./P.F.

KEKU STRAIT

STATE OF ALASKA 49th
Steven O. Bradford
No. CE4553
REGISTERED PROFESSIONAL ENGINEER