

**STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES**

**PLAN AND PROFILE
PROPOSED HIGHWAY PROJECT
KAKE - FERRY TERMINAL
TO
(LITTLE) GUNNUK CREEK
RS-0939(3) 68803**

STATE	PROJECT	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939 (3)	1	18

SHT. NO.	INDEX TO SHEETS
1	TITLE SHEET
2	QUANTITIES SHEET
3	TABLES
4	TYPICAL SECTIONS
5-7	MISC. DETAILS
8-14	PLAN AND PROFILE
15	INTERSECTION DETAILS
16	RETAINING WALL DETAILS
17-18	TRAFFIC CONTROL PLAN

The following Standard Drawings apply to this project:
 A-1, C-01.03, C-02.01, C-03.01, D-01.01, D-04.10,
 G-04.03S, G-14.04S, G-18.00S, I-81.00,
 M-05.00, M-13.01, M-16.01, S-00.00, S-05.00,
 S-30.01

AS-BUILTS

PROJECT SUMMARY

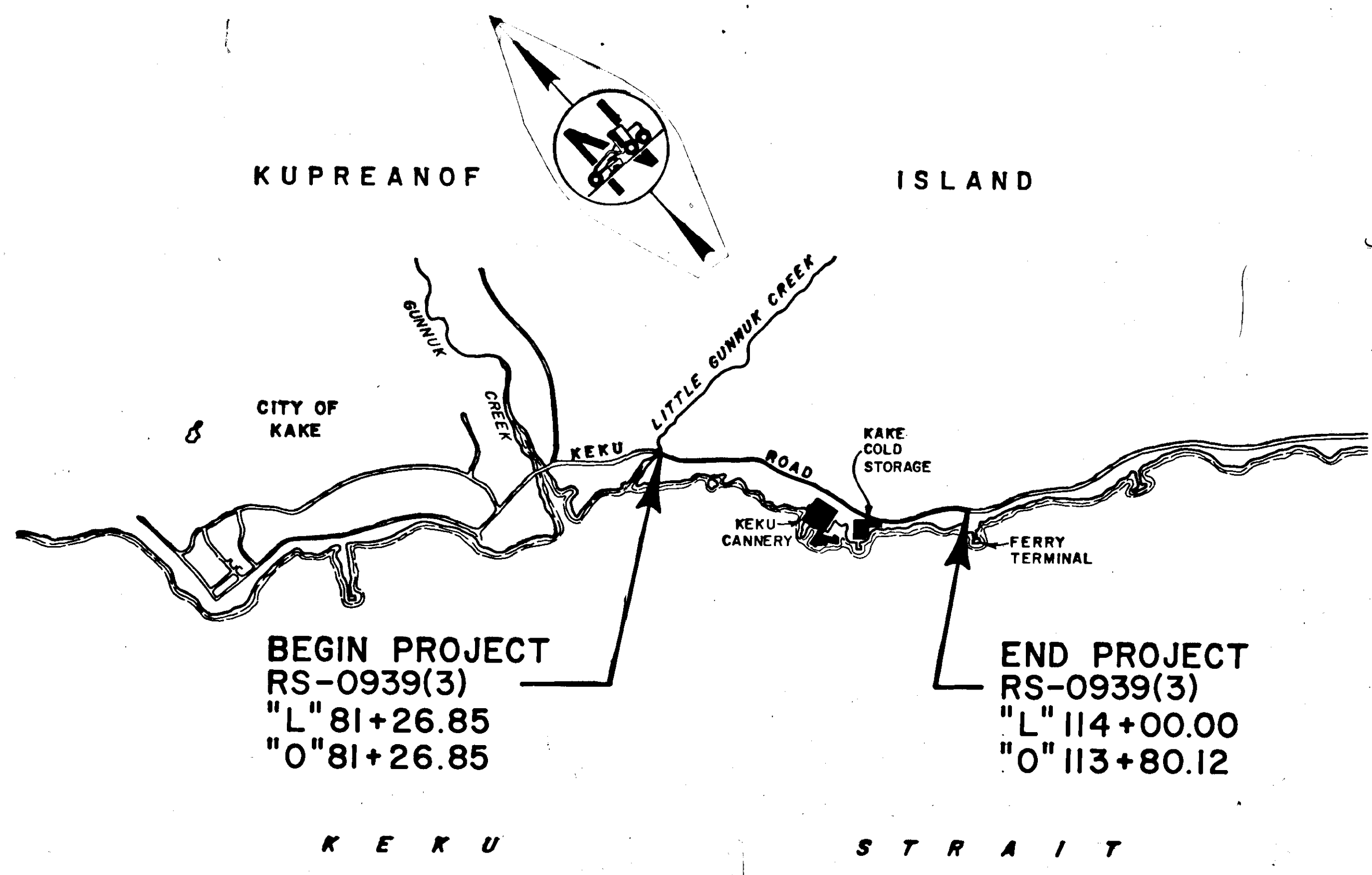
WIDTH OF PROJECT = 32'
 LENGTH OF PROJECT = 3253.27' = .62 mi.

DESIGN DESIGNATION

ADT 1989.....805
 ADT 2009.....980
 DHV 16%.....156
 % T.....5%
 T.I.....6.5
 V.....30 mph.

DESIGN EXCEPTIONS

- USE OF CUT SLOPES AND FILL SLOPES THAT ARE STEEPER THAN RECOMMENDED STANDARD SLOPES, SEE TABLE ON SHEET 3.
 - USE OF TANGENT SECTIONS OF REDUCED LENGTH BETWEEN REVERSING CURVES: THIS OCCURS BETWEEN "0" 81+26.85 AND "0" 81+78.35 AND BETWEEN "0" 108+62.54 AND "0" 110+08.24.
- EXCEPTIONS WERE APPROVED BY FHWA ON APRIL 10, 1987.



Date Started: July 1, 1990
 Date Completed: September 24, 1990
 Contractor: Northern Timber Corp.
 Project Engineer: Greg Browning
 Contract Amount: \$610,000.00

BEGIN PROJECT
 RS-0939(3)
 "L" 81+26.85
 "O" 81+26.85

END PROJECT
 RS-0939(3)
 "L" 114+00.00
 "O" 113+80.12

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 &
 PUBLIC FACILITIES

APPROVED
J. Meaill Date 9/11/89
 CHIEF OF DESIGN, S.E. REGION

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 &
 PUBLIC FACILITIES

APPROVED
D. J. [Signature] Date 9/11/89
 DIRECTOR, S.E. REGION DESIGN / CONSTRUCTION

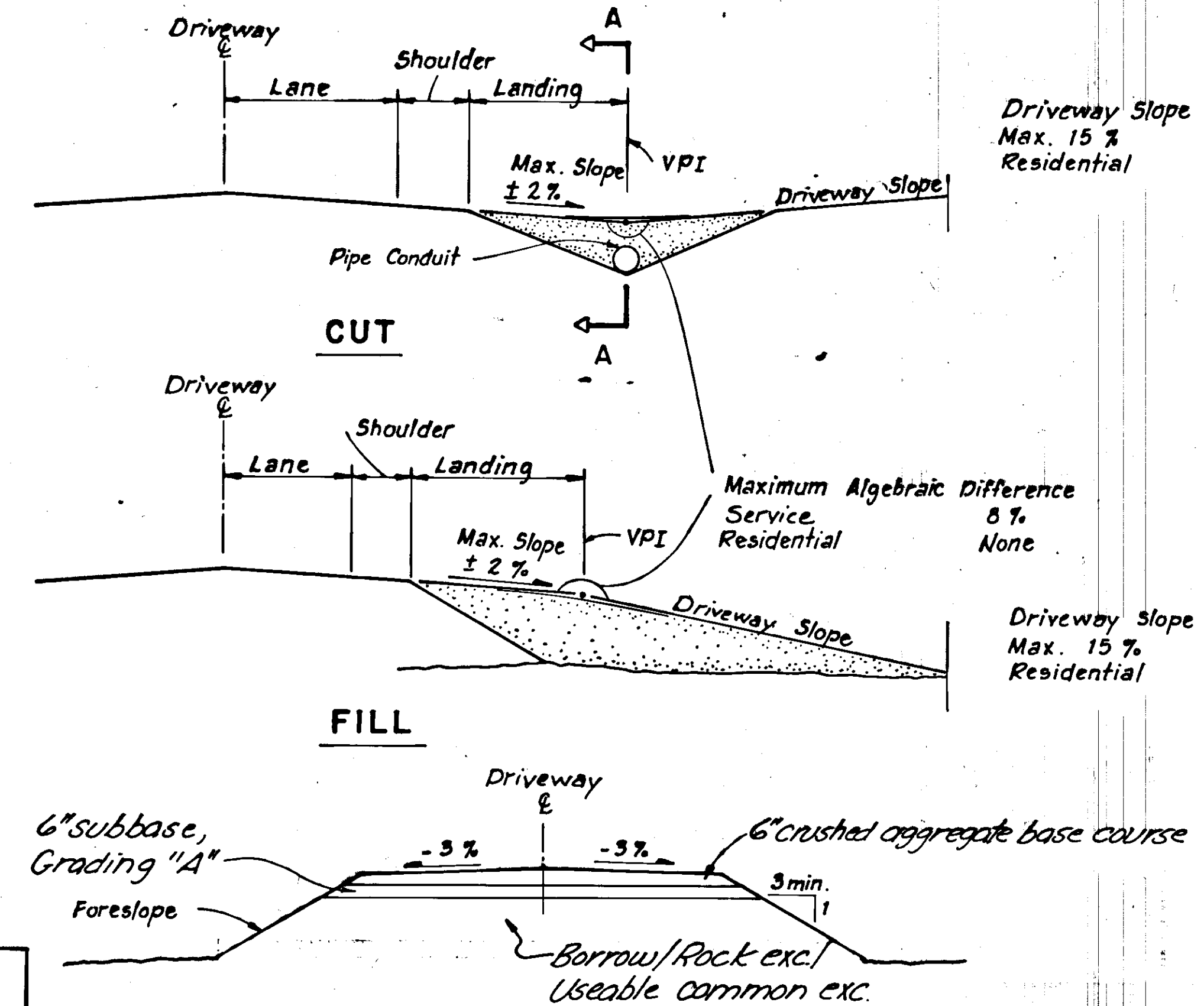
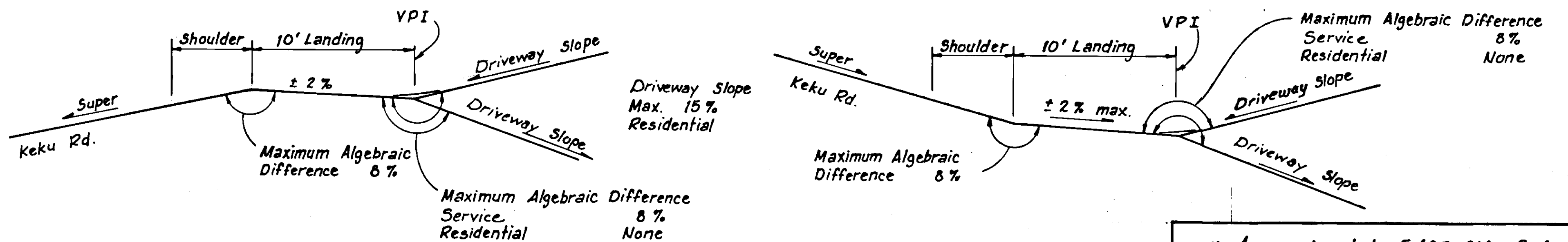
ESTIMATE OF QUANTITIES

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939(3)	89	2	8

ITEM NO.	ITEM	UNIT	SHEET NUMBERS								TOTAL
			8	9	10	11	12	13	14		
120 (1)	DBE Adjustment	C.S.									All Required
201 (1A)	Clearing	Acre	0.47	0.78	0.69	0.55	0.52	0.11	0		3.12 2.11
202 (1)	Removal of Structures and Obstructions	L.S.									All Required
202 (4)	Removal of Culvert Pipe	L.F.	55	20	76	0	173	38	0		362 514
202 (12)	Water Conduit Disposal	L.S.									All Required
203 (1)	Common Excavation	C.Y.	1,092	1,559	2,400	922	734	837	168		7,718 6,610
203 (2)	Rock Excavation	C.Y.	0	2638	0	0	0	0	0		2,638 3326
203 (7)	Borrow, Type C	C.Y.M.	**	**	**	**	188	**	**		188 588
203 (11)	Gunnick "D" Approach	L.S.									All Required
301 (2)	Crushed Aggregate Base Course	C.Y.	231	385	309	395	363	324	59		2,066 2,574
304 (2)	Subbase Grading "A"	C.Y.	512	819	1105	850	806	724	133		4,949 5,083
506 (1)	Treated Timber	L.S.									All Required
510 (1)	Retaining Wall	L.S.									All Required
603 (1A)	Rigid Steel Conduit Each Pipe	L.S.									All Required
603 (9-18)	18-inch Corrugated Aluminum Pipe	L.F.	84	68	0	0	0	84	0		236
603 (9-24)	24-inch Corrugated Aluminum Pipe	L.F.	0	55	0	42	208	0	0		305 302
603 (9-48)	48-inch Corrugated Aluminum Pipe	L.F.	0	0	100	0	0	0	0		100 92
604 (8)	Corrugated Aluminum Pipe Manhole	Each	0	0	0	0	1	0	0		1
606 (1)	W-Beam Guardrail	L.F.	98	164.5							262.5
606 (6)	End Anchorages	Each	1	1							2
611 (1)	Riprap, Class I	C.Y.	0	212	12	3	3	0	0		230 134
613 (1)	Right of Way Monuments	Each	2	0	0	0	0	0	0		2
615 (1)	Standard Signs	S.F.	16.75	6.25	0	0	0	7.5	0		30.5
615 (2)	Remove and Relocate Existing Signs	Each	0	0	3	2	0	0	0		5 4
618 (1)	Seeding	Acre	0.65	1.08	1.07	0.83	0.66	0.42	0.09		4.8 2
627 (1)	10" Ductile Iron Water Conduit Class 50	L.F.	360	580	156	194	0	0	0		1290 1341.5
627 (3)	Install Valve Box	Each	4	8	0	1	0	0	0		13 17
627 (6)	Fire Hydrant Relocation	Each	0	1	1	1	0	0	0		3
627 (7)	Fire Hydrant Removal	Each	0	0	0	0	1	0	0		1
627 (8)	Water Service Connection	Each	4	8	0	1	0	0	0		13 15
627 (10)	Adjustment of Valve Box	Each				1					1 3
627 (11)	Air Release Valve	Each			1	1					1
627 (12)	Temporary Water Conduit	L.S.									All Required
639 (1)	Residence Driveways	Each	3	2	2	2	5	3	0		17 20
640 (1)	Mobilization and Demobilization	L.S.									All Required
641 (1)	Temporary Erosion and Pollution Control	C.S.									All Required
642 (1)	Construction Surveying	L.S.									All Required
643 (2)	Traffic Maintenance	L.S.									All Required
643 (4)	Construction Sign	Ea./Day									4,000 623
643 (5)	Type II Barricade	Ea./Day									3,000 473
643 (7)	Traffic Cone	Ea./Day									5,000 1228
643 (15)	Flagging	Hour									1,800 997
645 (1)	Training Program	Man-Hour									500 322.5

GENERAL NOTES

1. Driveways and streets not having profile details shown on the Plan & Profile sheets shall be constructed according to the Driveway Profiles.
2. Grades and alignments as shown on the plans are subject to minor revisions by the Engineer.
3. Location and length of pipe conduits are subject to minor revisions by the Engineer.
4. **Clearing limits shall be as follows:**
In fill areas, clear all vegetation to the toe of the embankment. Hand clear trees larger than 4" in diameter located between the toe of the embankment and 10' beyond or to the R/W line, easement line or permit line. Leave smaller trees, brush and other organic materials undisturbed to retard erosion. In cut areas, hand clear trees larger than 4" in diameter within a distance of 10 feet from the top edge of the backslope or to the R/W line, easement line or permit line, whichever ever distance is the least. Leave smaller trees, brush, and other organic materials undisturbed to retard erosion. The existing roadway will not be measured for payment.
5. Disposal of waste material shall be the responsibility of the Contractor. The disposal area shall be approved by the Engineer and shall be outside of the R/W limits. Permits may be required.
6. Electric, telephone, and cable television utilities will be relocated by the utility companies. Relocation may take place during the project construction. The Contractor is responsible for coordination of work with the utility companies and their contractors. Utility relocation is estimated to be complete by Nov. 30, 1989.
7. Waterline location shown in the Plan & Profile are approx. Only verify exact location prior to beginning work.
8. Super-elevation is rotated around centerline.
9. Guardrail locations, as shown on the plans, are subject to minor revisions by the Engineer.



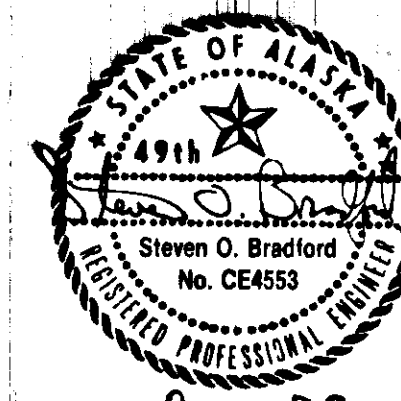
* Approximately 5,400 C.Y. of Common Excavation will be waste material.
 ** Embankment not shown these sheets, comes from Rock Excavation and Useable Common Excavation.

DRIVEWAY PROFILES AT SUPERELEVATIONS

N.T.S.

SECTION A-A TYPICAL DRIVEWAY SECTION DRIVEWAY PROFILES

N.T.S.



SIGN SCHEDULE

No.	STATION	OFFSET		CODE No.	LEGEND	SIGN PANEL			POST			
		LT.	RT.			THICKNESS UNFRAMED	SIZE	AREA S.F.	No. OF POSTS	TYPE	SIZE	LENGTH
①	"0" 81+27	22		OM-3R	object marker	.080	12"x36"	3.00	1	PST	2"x2"	13' *
②	"0" 82+10		20	R2-1	SPEED LIMIT 30	.080	30"x36"	7.50	1	PST	2"x2"	16' *
③	"0" 82+47	30		R1-1	STOP	.080	30"x30"	6.25	1	PST	2"x2"	14' *
④	"0" 86+80	26		R1-1	STOP	.080	30"x30"	6.25	1	PST	2"x2"	14' *
⑤	"0" 112+75	25		R2-1	SPEED LIMIT 30	.080	30"x36"	7.50	1	PST	2"x2"	13' *

* INCLUDES EMBEDMENT LENGTH OF 3'-6" PER STD. DWG. S-30.01

WATERLINE ADJUSTMENT SUMMARY

*STATION	OFFSET		SIZE	REMARKS
	LT.	RT.		
"0" 81 + 40	X		10" Ø D.I.	BEGIN INSTALLATION. CONNECT TO EXISTING 10" Ø C.I. PIPE
"0" 92 + 36.06		X	10" Ø D.I.	END INSTALLATION. CONNECT TO EXISTING 10" Ø D.I. PIPE
"0" 97 + 81.95	X		10" Ø D.I.	BEGIN INSTALLATION. CONNECT TO EXISTING 10" Ø D.I. PIPE
"0" 99 + 75.62		X	10" Ø D.I.	END INSTALLATION. CONNECT TO EXISTING 6" Ø A.C. PIPE

* STATIONS ARE APPROXIMATE AND MAY BE FIELD ADJUSTED

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939 (3)	89	3	18

CULVERT SUMMARY

STATION	PIPE LENGTH			REMARKS
	18"	24"	48"	
"0" 82+68, 21' LT.	54'			
"C" 10+67, 25' RT.	30'			DL-ETL
"C" 87+18, 24' LT.	30'			Add
"0" 86+96, 21' LT.	48'			
"0" 88+79, 0'	55' 1/2			
"0" 91+48, 0'			100' 1/2	
"0" 99+23, 0'	42'			
"0" 105+36, 0'	168'			
"0" 107+12, 21' LT.	48' 3/4			
"D" 10+40, 19' RT.	20'			Add
"D" 10+36, 19' LT.	20'			
"0" 108+46, 21' LT.	84'			

WATER SERVICE INSTALLATION

STATION	OFFSET		SIZE	REMARKS
	LT.	RT.		
"0" 81 + 70		X	3/4" Ø	INSTALL CURB STOP W/ VALVE BOX AT PROPERTY LINE OR AS DIRECTED BY THE ENGINEER
"0" 82 + 89	X		3/4" Ø 8' 10"	
"0" 83 + 74.69		X	3/4" Ø	
"0" 85 + 72.20		X		
"0" 85 + 48	X		2" Ø	
"0" 87 + 70.22	X		3/4" Ø	
"0" 88 + 70		X		
"0" 89 + 00.88+59	X			
"0" 89 + 02.74		X		
"0" 90 + 22	X			
"0" 90 + 42.09+75		X		
"0" 99 + 70		X		

NOTE: IF WATER SERVICE EXISTS, CONTRACTOR SHALL CONNECT EXISTING WATER SERVICE TO NEW CURB STOP.

Add

84+34	X		3/4"
81+69		X	3/4"

CUT SLOPE EXCEPTION TABLE

STATION TO STATION	OFFSET		BACK SLOPE	REMARKS
	LT.	RT.		
"0" 86+45			1.5 : 1	
"0" 87+01	X		1.0 : 1	ROCK SLOPE STABILIZATION
"0" 89+01	X		0.75 : 1	
"0" 89+51	X		0.5 : 1	
"0" 102+70	X		1.5 : 1	
"0" 103+21	X		1.0 : 1	
"0" 104+01	X		0.75 : 1	
"0" 104+51	X		0.5 : 1	
"0" 83+00	X		3 : 1	

TABLE OF FILL SLOPES*

HEIGHT	SLOPE
0' TO 5'	3 : 1
5' TO 10'	2 : 1
10' +	1.5 : 1

* See Typical Sections (Guardrail, Widening, & Retaining Wall) For Exceptions.

CULVERT REMOVAL SUMMARY

STATION	SIZE	STATION	SIZE
"0" 83+19, 7' LT.	8" Ø x 30'	"0" 103+12, 0'	18" Ø x 74', SKEWED
"0" 83+97, 0'	18" Ø x 25'	"0" 104+96, 0'	18" Ø x 31'
"0" 88+35, 0'	18" Ø x 20'	"0" 106+51, 0'	18" Ø x 26' Not Found
"0" 91+40, 0'	48" Ø x 76'	"0" 107+21, 17' LT.	24" Ø x 17'
"0" 81+40, 30' LT.	18" x 25'	"0" 108+50, 23' LT.	18" Ø x 38'
"0" 102+83, 15' LT.	18" Ø x 25' 28'		

SIGN RELOCATION SUMMARY

NO.	REMOVE	OFFSET		INSTALL	OFFSET	
		LT.	RT.		LT.	RT.
1	"0" 92 + 05		13'	"0" 92 + 05		26'
2	"0" 94 + 34	24'		"0" 94 + 37		47'
3	"0" 95 + 25		46'	"0" 95 + 25		46.32'
4	"0" 97 + 46	27'		"0" 97 + 46		27'
5	"0" 100 + 72	19'		"0" 100 + 72		25'

MONUMENT SUMMARY TABLE

MONUMENTS TO BE REMOVED		MONUMENTS TO BE SET	
DESCRIPTION	STA / OS	DESCRIPTION	STA / OS
BLM BRASS CAP MONUMENT LOCATED AT THE APPROXIMATE CENTERLINE OF KEKU ROAD AND "C" STREET.	"0" 82+69.07 2.36' RT.	PRIMARY MONUMENT ON THE R/W LIMITS OF KEKU ROAD AND "C" STREET, COMMON TO THE SOUTH CORNER OF LOT 1, BLOCK 5, U.S.S. 3851.	"0" 82+38.55 41.80' Lt.
BLM COPPERWELD MONUMENT LOCATED ON THE EXISTING R/W LIMIT OF KEKU ROAD, COMMON TO THE SOUTH CORNER OF LOT 1 AND THE WEST CORNER OF LOT 2, BLOCK 7, U.S.S. 3851.	"0" 84+91.16 50.86' LT.	PRIMARY MONUMENT ON THE EAST R/W LIMIT OF KEKU ROAD, COMMON TO THE BOUNDARY LINE BETWEEN LOTS 1 AND 2, BLOCK 7, U.S.S. 3851.	"0" 84+93.86 60.48' Lt.
Removed For Approach Work	82+58.55 41.80 Lt.	Reset Exact Location	82+58.55 41.80 Lt.

HYDRANT REMOVAL SUMMARY

STATION	OFFSET		REMARKS
	LT.	RT.	
"0" 103+15		17'	CONNECTED TO 2" Ø COPPER PIPE. HYDRANT SHALL BECOME THE PROPERTY OF THE CITY OF KAKE.

DRIVEWAY SUMMARY

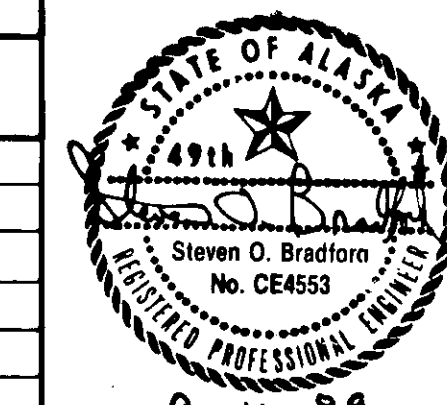
STATION	OFFSET		WIDTH	STATION	OFFSET		WIDTH
	LT.	RT.			LT.	RT.	
"0" 81 + 54		X	14'	"0" 98 + 13		X	14'
"C" 10 + 67 *		X	14'	"0" 82 + 45		X	14'
"0" 83 + 16.5		X	14'	"0" 84 + 18		X	14'
"D" 10 + 39		X	14'	"0" 84 + 40		X	14'
"D" 10 + 42	X		14'	"0" 84 + 90		X	14'
"0" 91 + 97	X		14'				
"0" 94 + 75		X	22'				
"0" 101 + 10		X	14'				
"0" 102 + 09		X	14'				
"0" 103 + 47		X	14'				
"0" 105 + 83		X	24'				
"0" 106 + 96		X	24'				
"0" 107 + 12	X		20'				
"0" 108 + 46	X		26'				
"0" 109 + 71		X	28'				
"0" 111 + 00	X		28'				

***HYDROLOGIC & HYDRAULIC SUMMARY**

FLOOD FREQUENCY	50 YEAR	100 YEAR
EXCEEDENCE PROBABILITY	2 %	1 %
DRAINAGE AREA	0.3 SQ. MI.	0.3 SQ. MI.
DESIGN DISCHARGE	74 CFS	86 CFS
DESIGN HIGH WATER	33.7 FT.	34.2 FT.

- Hydraulic capacity of the structure equals 9,425 CFS at elevation 24.0 which has an exceedence probability equal to or less than 0.2 % (Q 500).
 - Anticipated Backwater = 0.0 FT.
 - Design High Water is controlled by the tide of record = 22.6 which equals or exceeds a 100 year storm (Exceedence Probability = 1 %)
 - Velocity for Q50 = 6 FPS (Does not allow for tide).
 - Datum = MLLW, MSL = 8.5' MLLW

* THIS SUMMARY APPLIES TO THE 48" PIPE CONDUIT AT STA. "0" 91+40 ON SHEET 10.



GUARDRAIL SUMMARY

STATION TO STATION	LOCATION		QTY.	REMARKS
	LT.	RT.		
"0" 83 + 30		X	262.5	TYPE G4S

FIRE HYDRANT RELOCATION SUMMARY

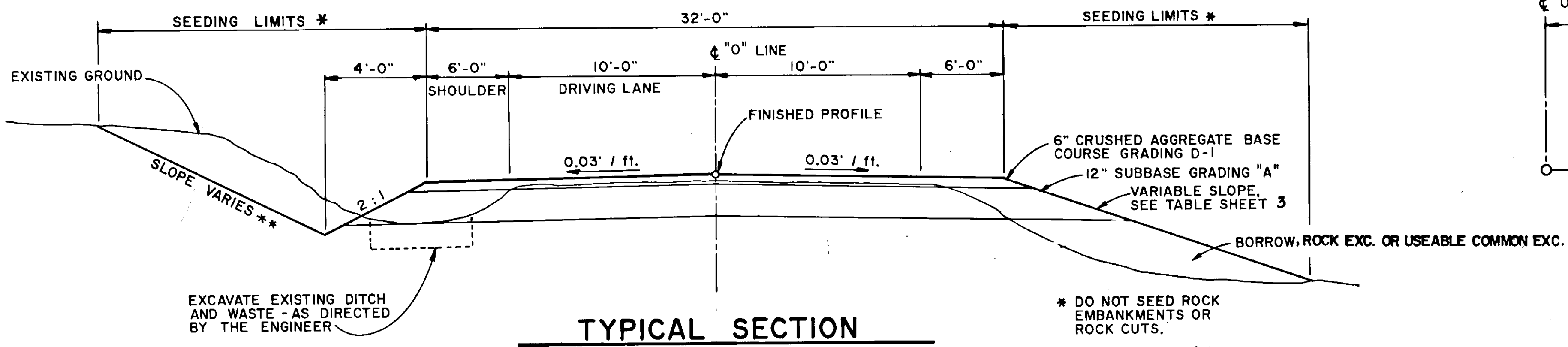
REMOVE	OFFSET		INSTALL	OFFSET	
	LT.	RT.		LT.	RT.
"0" 85+27	28'		"0" 85+27	33'	
"0" 92+12		16'	"0" 92+10		22'
"0" 99+53		17'	"0" 99+53		23'

BASIS OF ESTIMATE

ITEM No.	ITEM	FACTOR
506 (1)	TREATED TIMBER	STA. 85+65 TO 85+95 - 435 B.F. STA. 87+30 50 - 700 B.F.

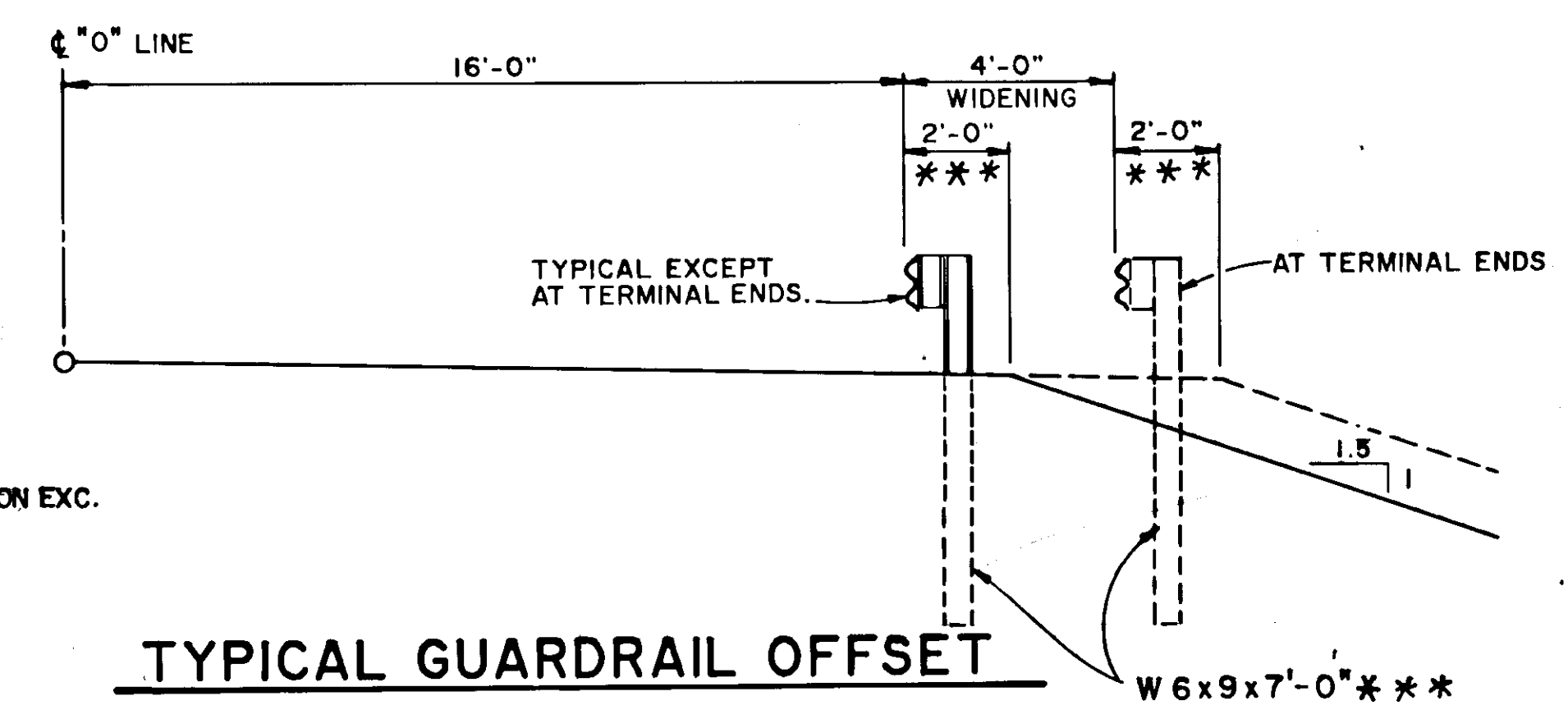
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939 (3)	'89	4	18

*** Guardrail shall be as shown on Standard Drawing G-04.03S
Type I post except min. post embedment shall be 4'-8" and face of rail to hinge point shall be 2'-0".

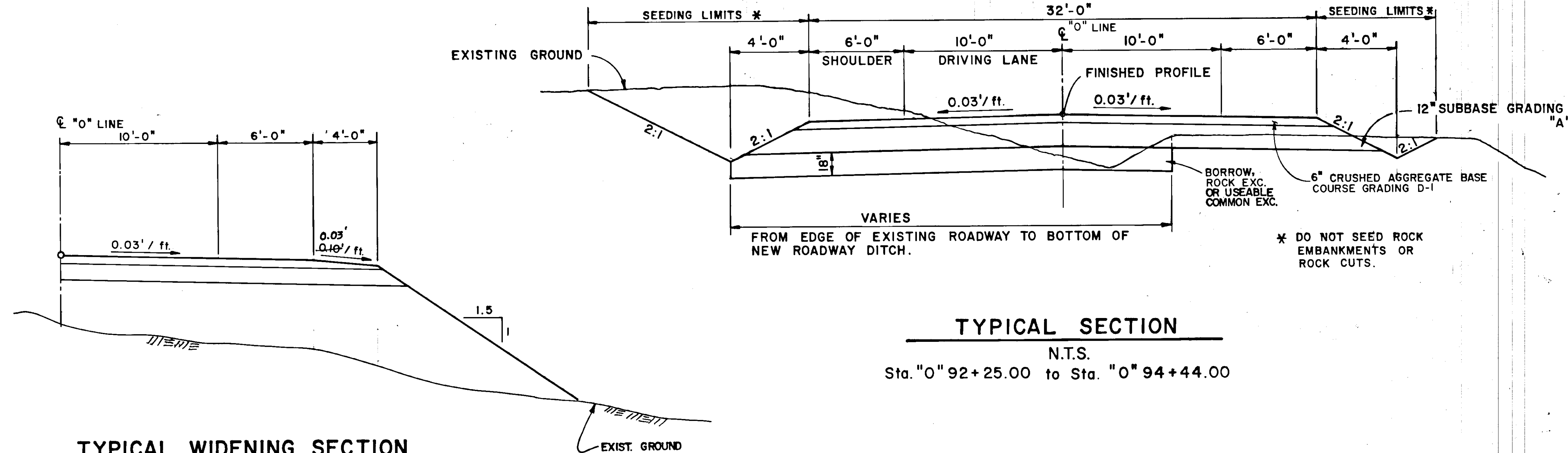


TYPICAL SECTION
 N.T.S.
 Sta. "0" 81+26.85 to Sta. "0" 92 + 25.00
 Sta. "0" 94+44.00 to Sta. "0" 113 + 80.12

* DO NOT SEED ROCK EMBANKMENTS OR ROCK CUTS.
 ** CUT SLOPE IS 2:1. EXCEPTIONS ARE LISTED ON SHEET 3.

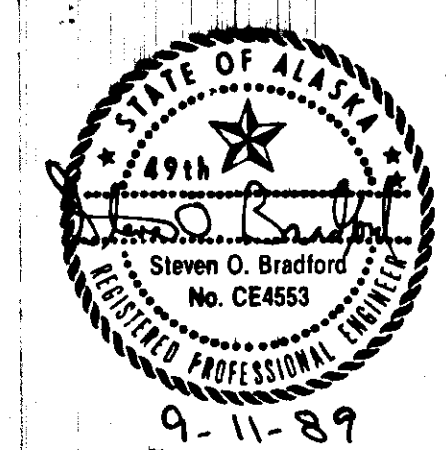


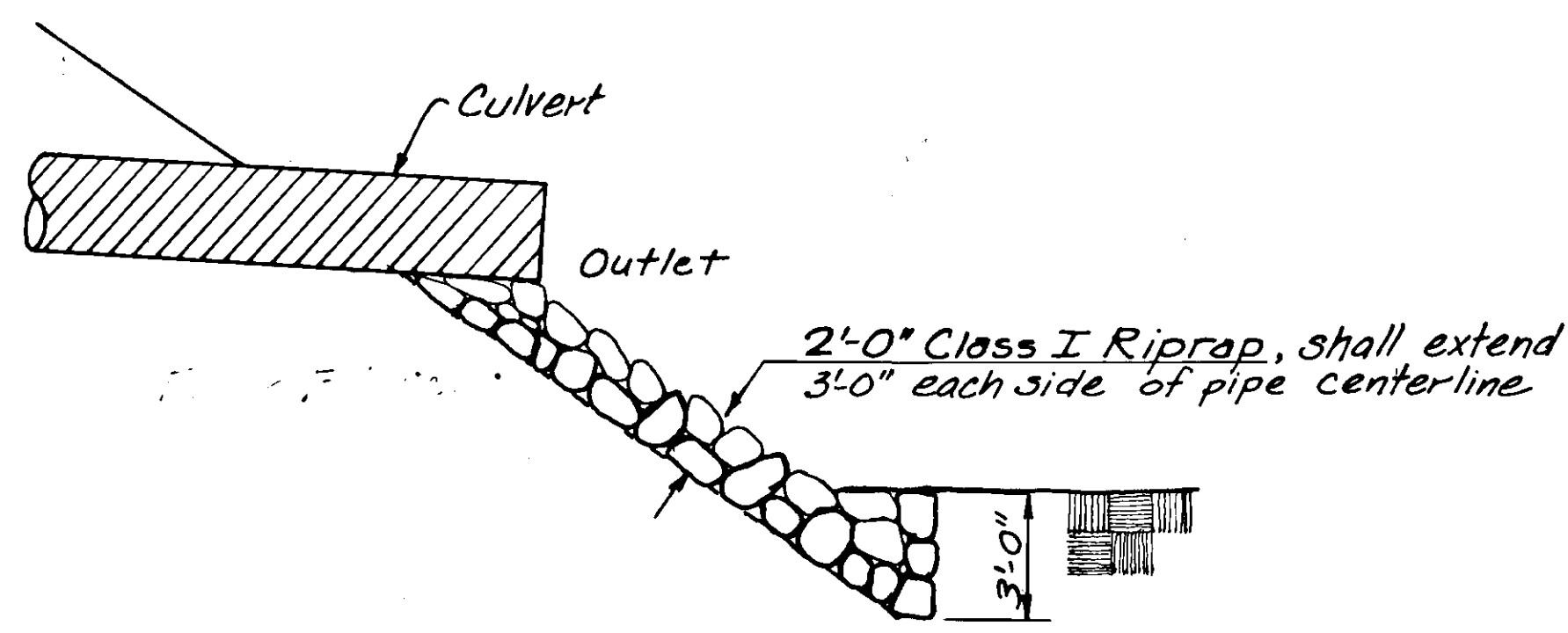
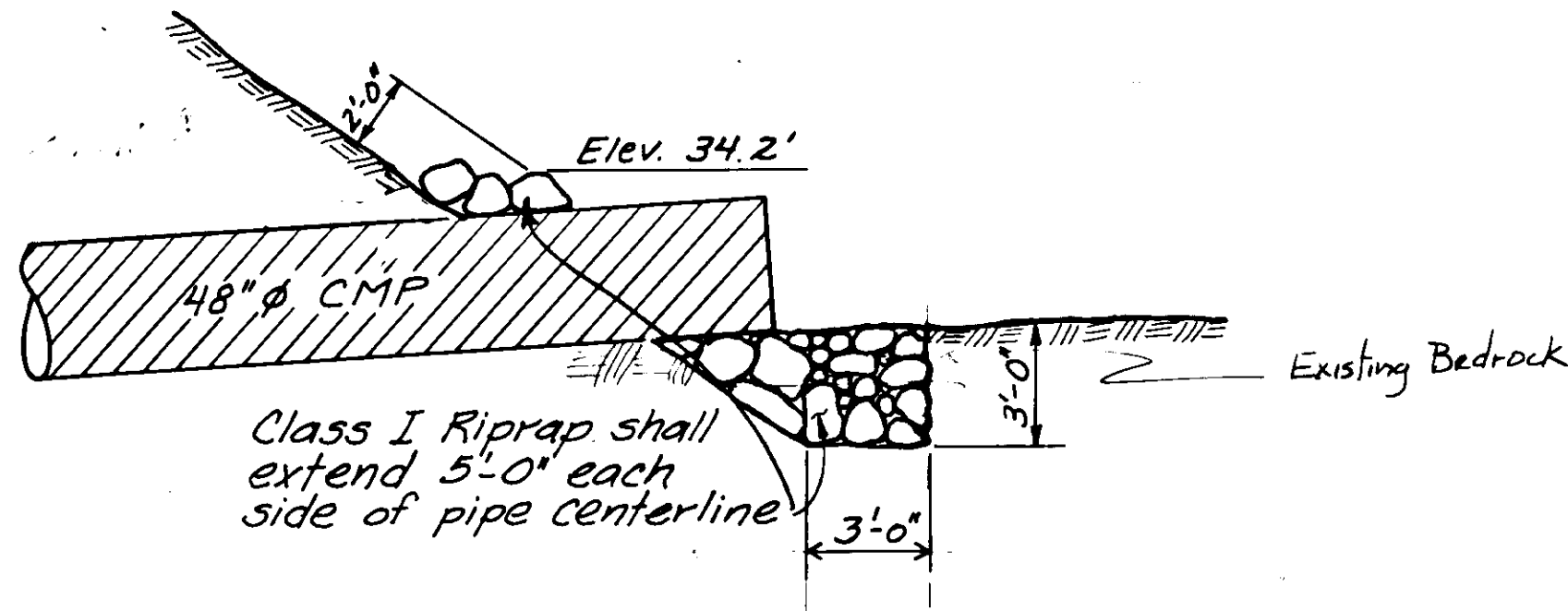
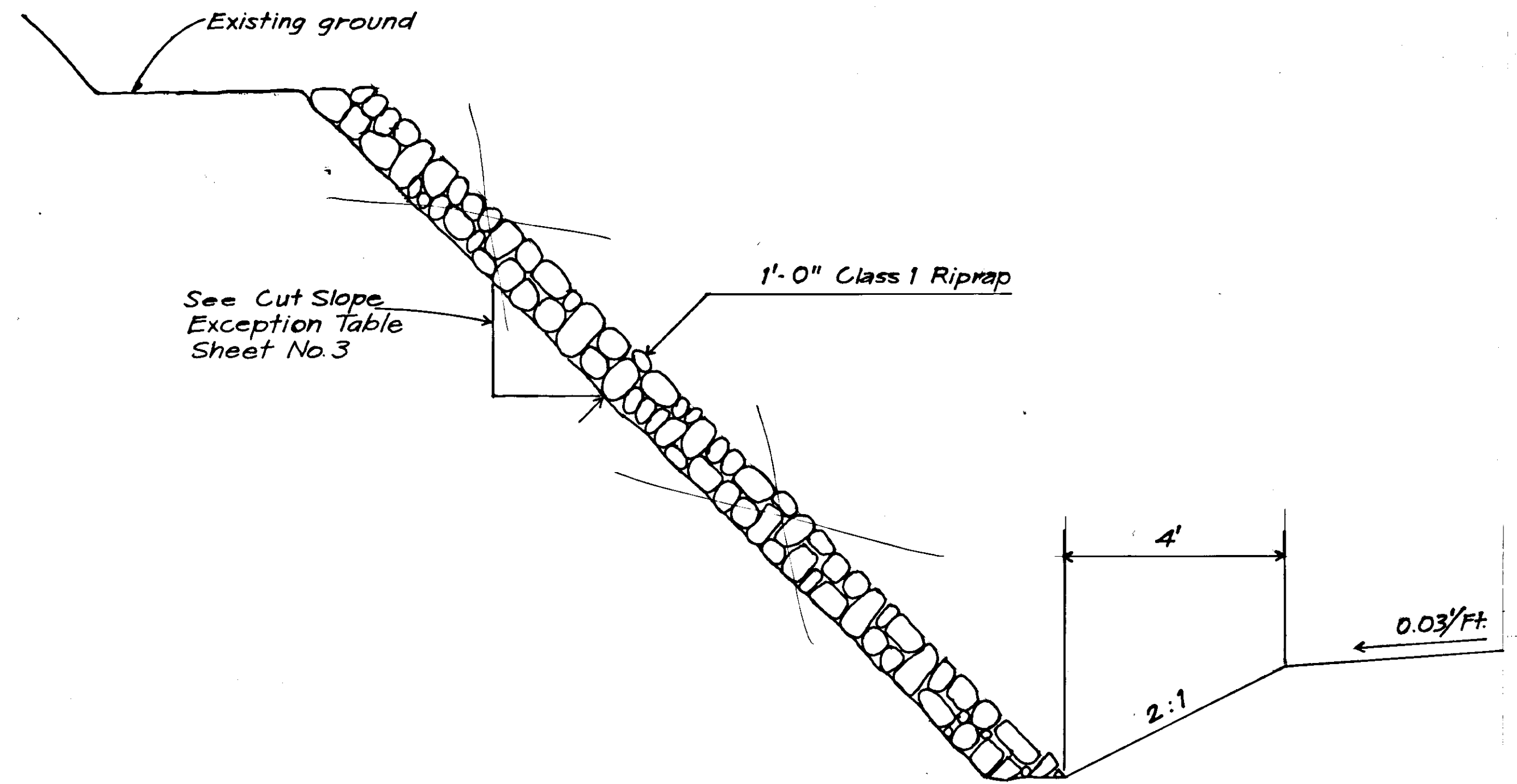
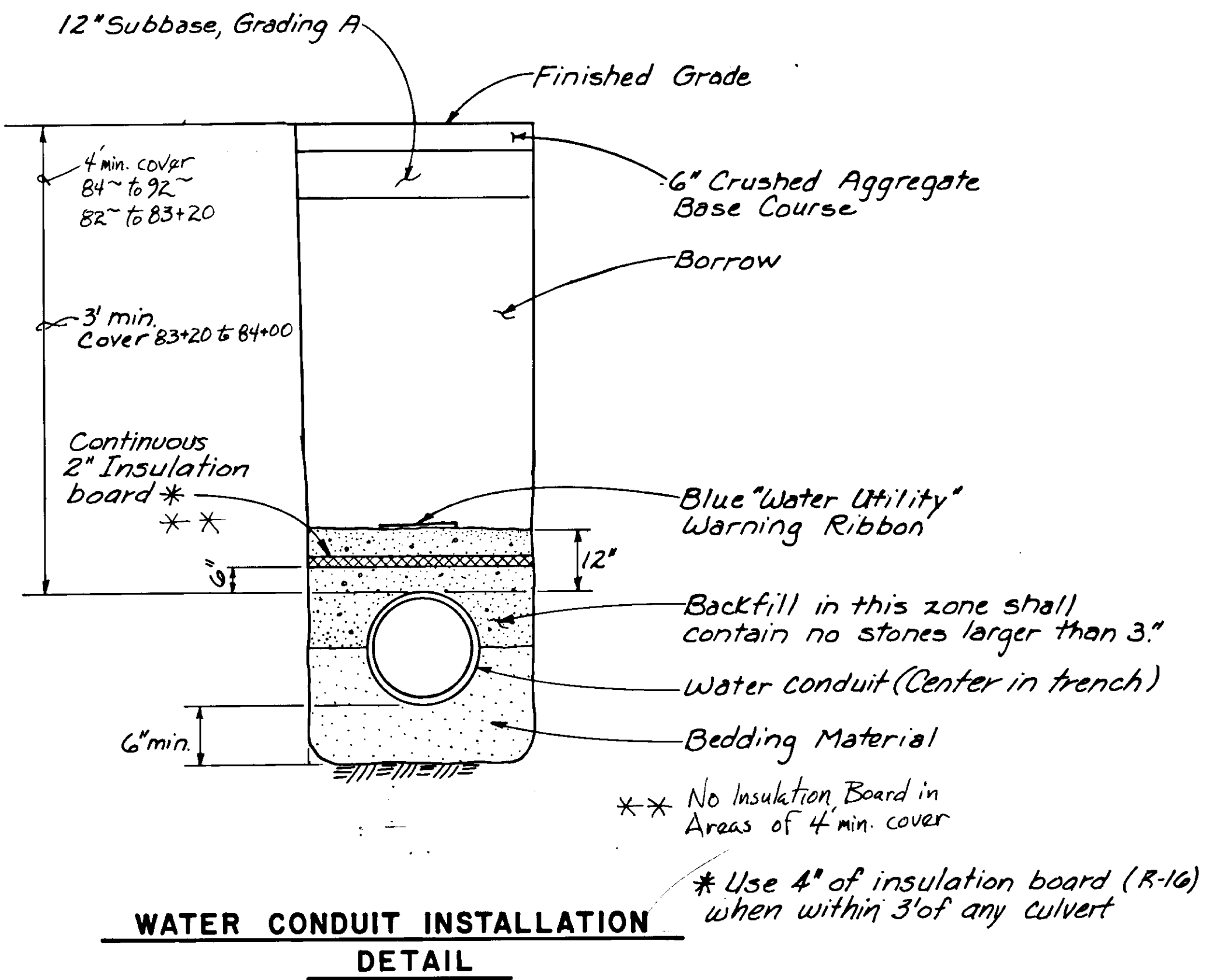
TYPICAL GUARDRAIL OFFSET
 Sta. "0" 83 + 30.00 to Sta. "0" 85 + 98.00



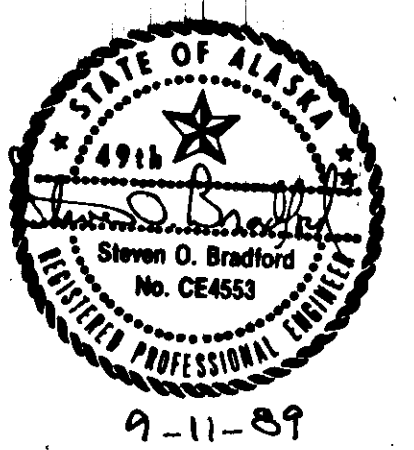
TYPICAL SECTION
 N.T.S.
 Sta. "0" 92+25.00 to Sta. "0" 94+44.00

TYPICAL WIDENING SECTION
 Sta. "0" 86 + 00.00 to Sta. "0" 92 + 00.00
 Sta. "0" 97 + 00.00 to Sta. "0" 105 + 50.00





Pipe Conduits at Sta. "0" 88+79
 Sta. "0" 99+2.3
 Sta. "0" 104+96



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939 (3)	'89	6	18

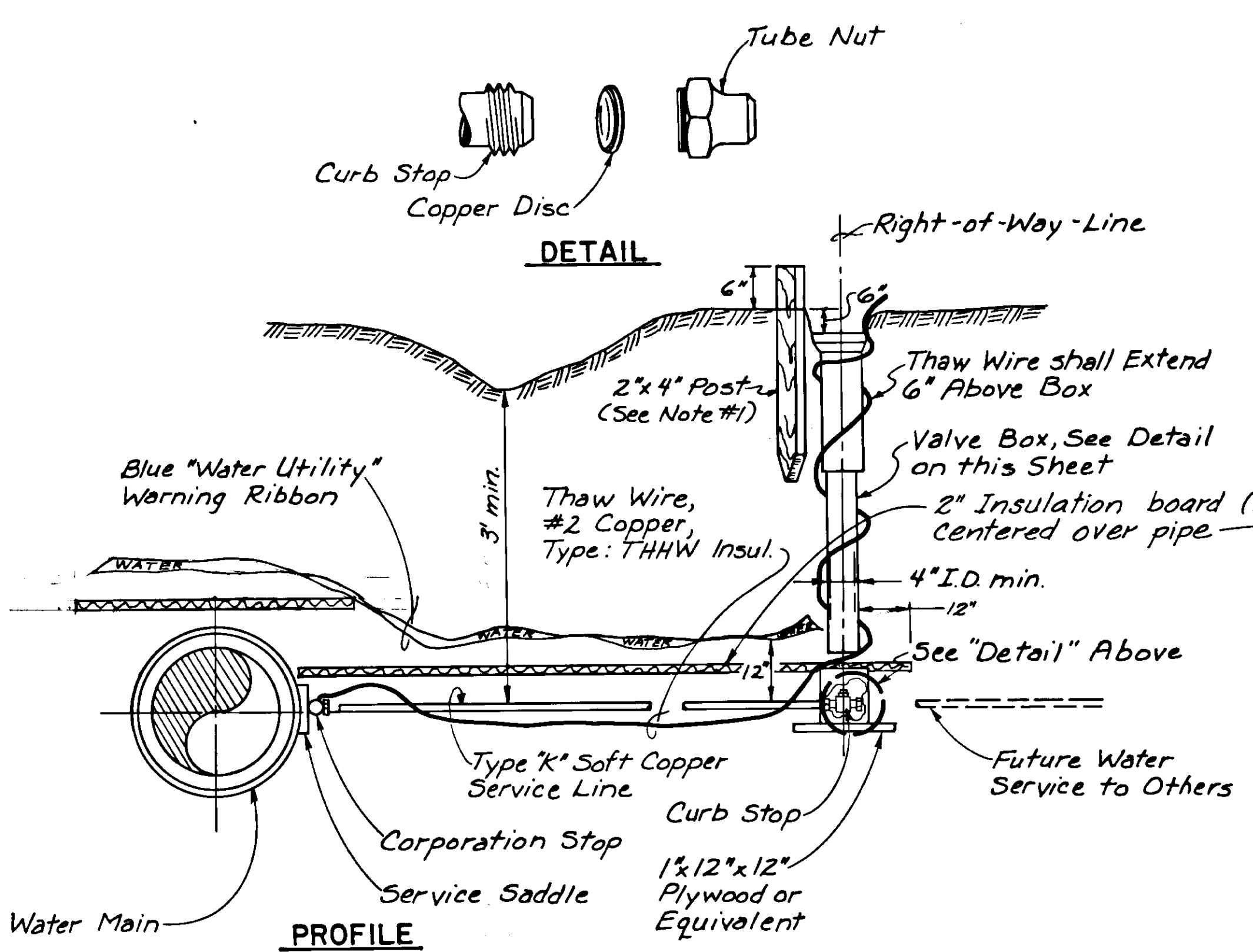
HYDRANT RELOCATION NOTES:

1. Hydrant barrel must be plumb.
2. Lead from main to hydrant barrel, gate valve, valve box shall be new except for the hydrant barrel.
3. Cover shall be 3'-0" minimum.
4. Install continuity straps between all fire hydrant assembly pipe spools and water main.

HYDRANT REMOVAL NOTES:

1. Close valve.
2. Remove Valve Box.
3. Remove Hydrant.
4. Cap the end of gate valve with concrete.

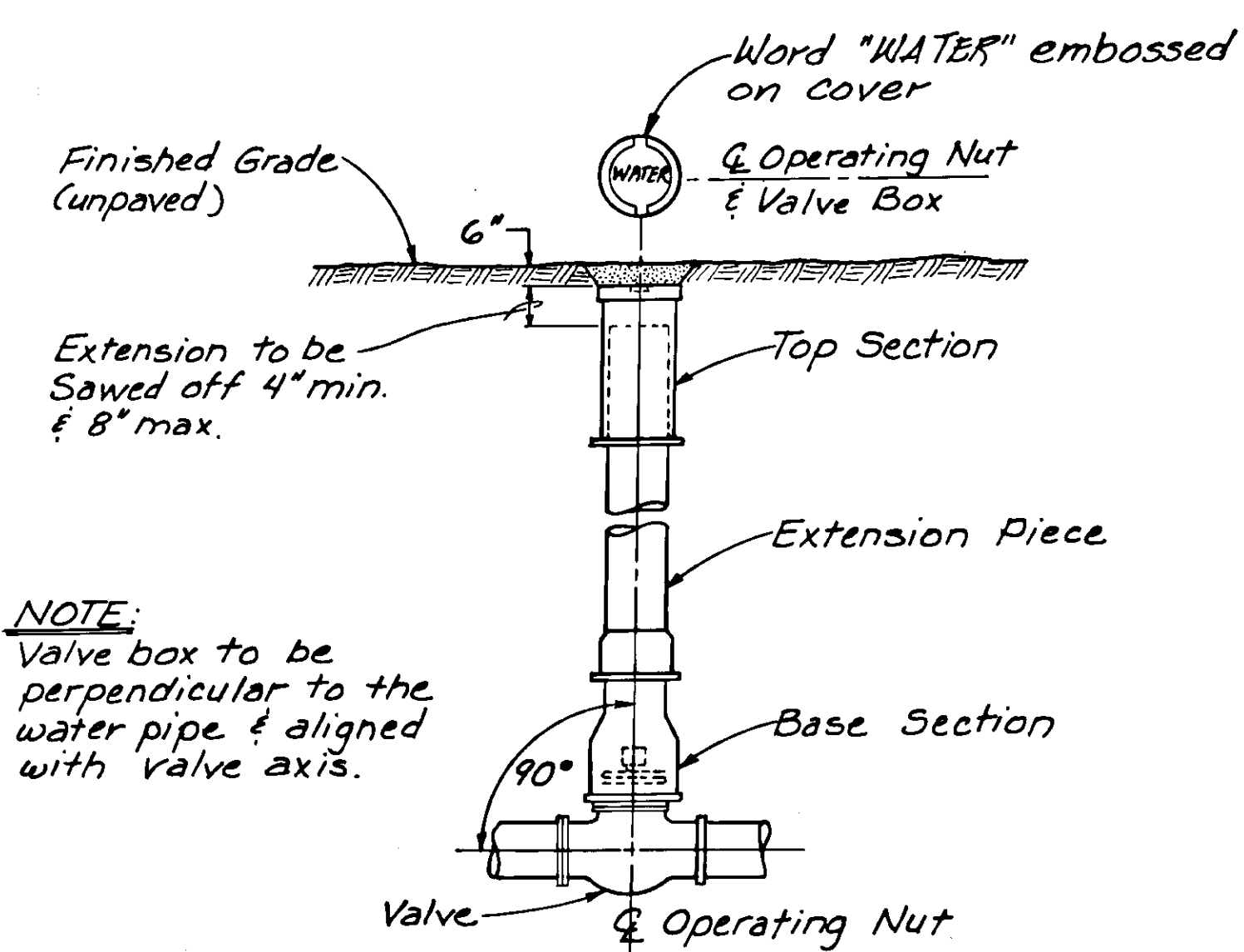
NOTE:
No bends shall exceed 1 1/4° between the hydrant and the main.



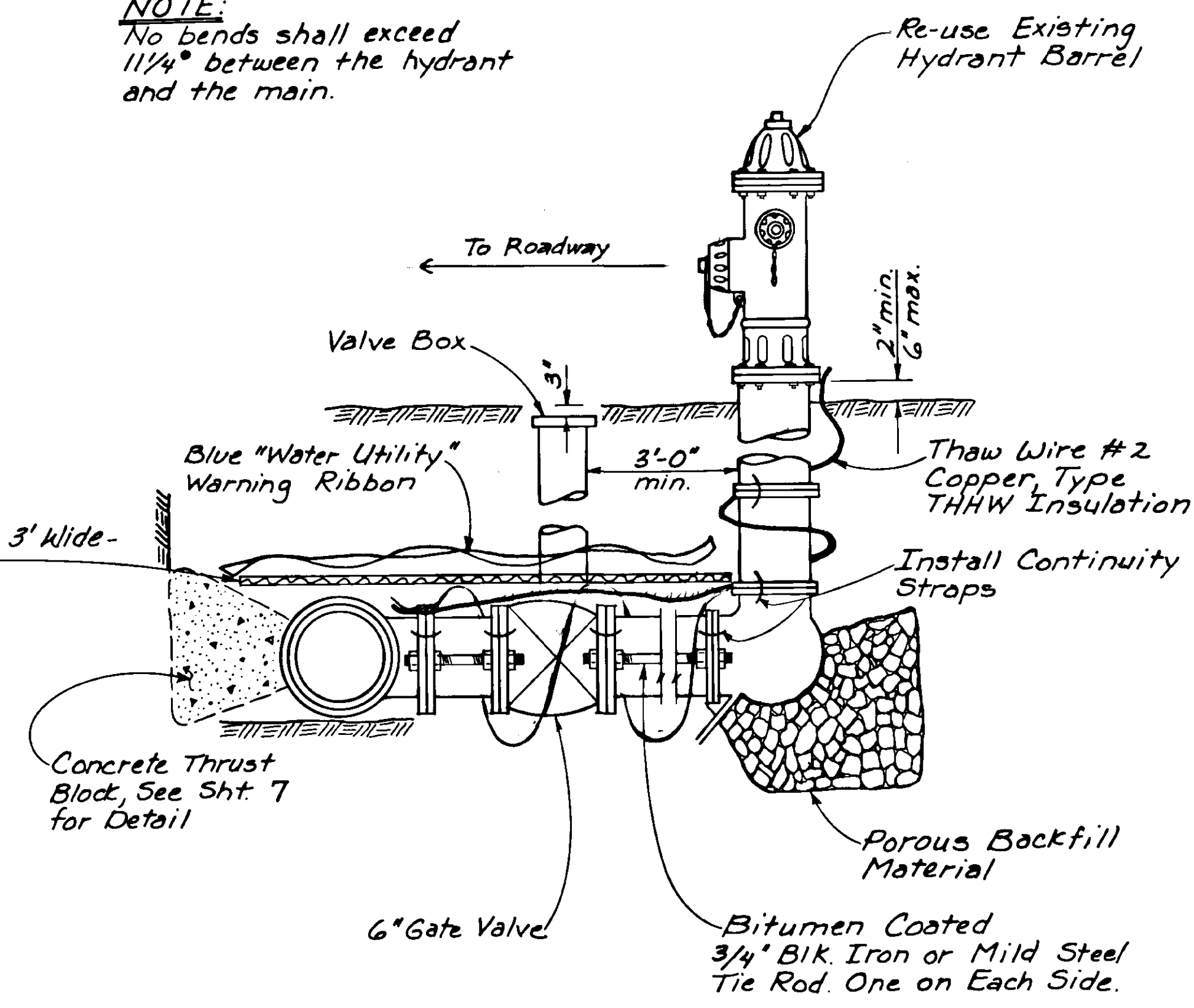
WATER SERVICE CONNECTION

WATER SERVICE CONNECTION NOTES:

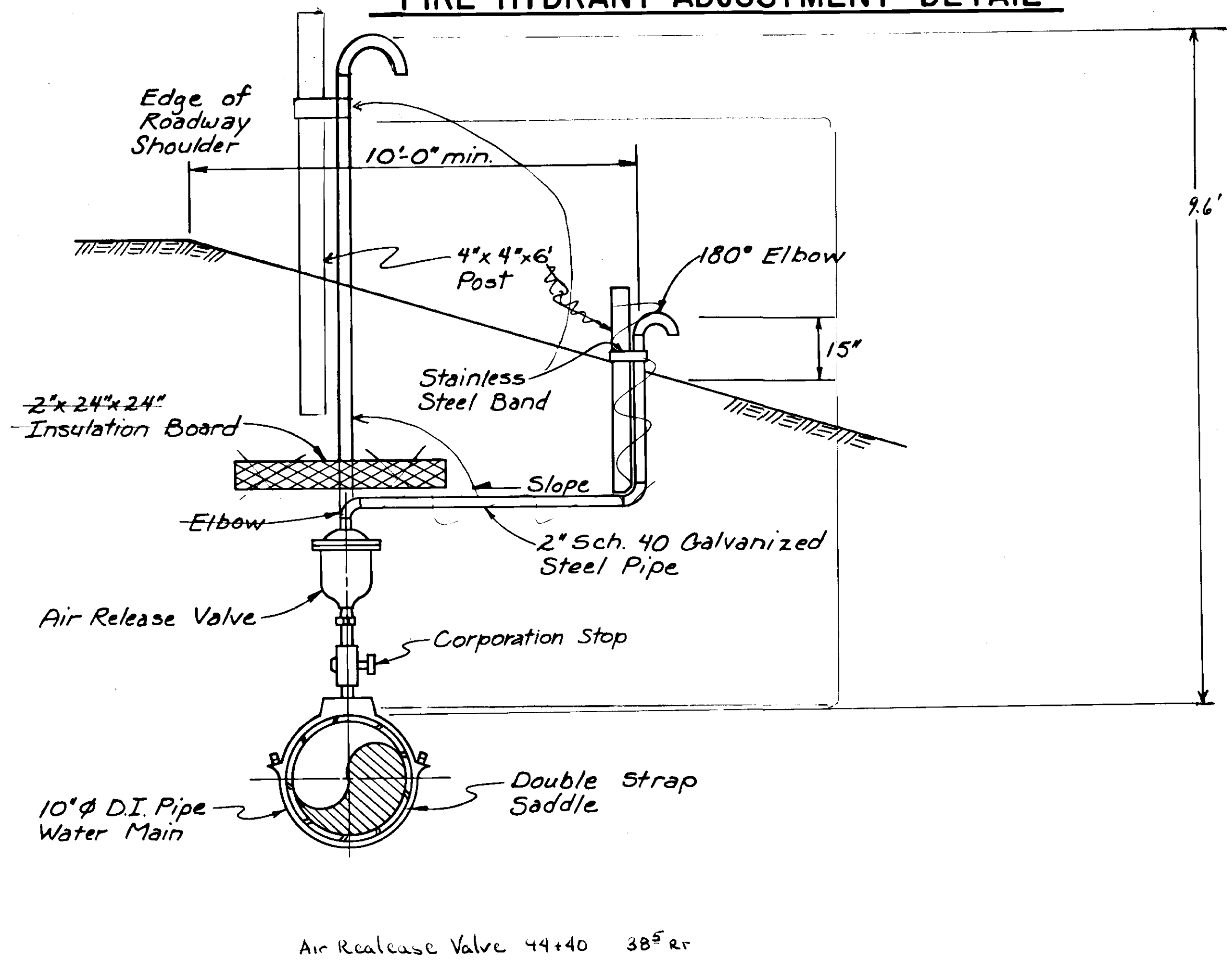
1. At curb stop connect to existing service line or mark future service with 2x4 timber painted blue, if water service does not exist.
2. Copper tube connections shall be flared unions.
3. Thaw wire shall be connected to the service saddle take-up nut with a solderless lug.
4. Thaw wire must not be run inside valve box.



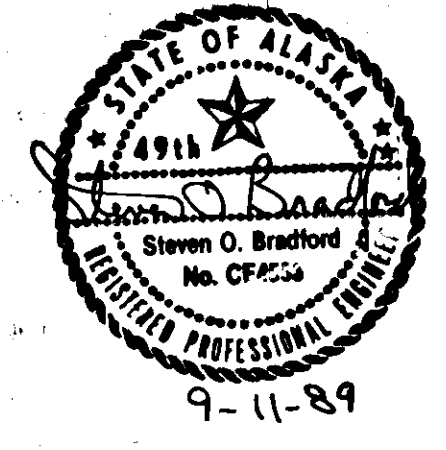
TYPICAL VALVE BOX DETAIL



FIRE HYDRANT ADJUSTMENT DETAIL

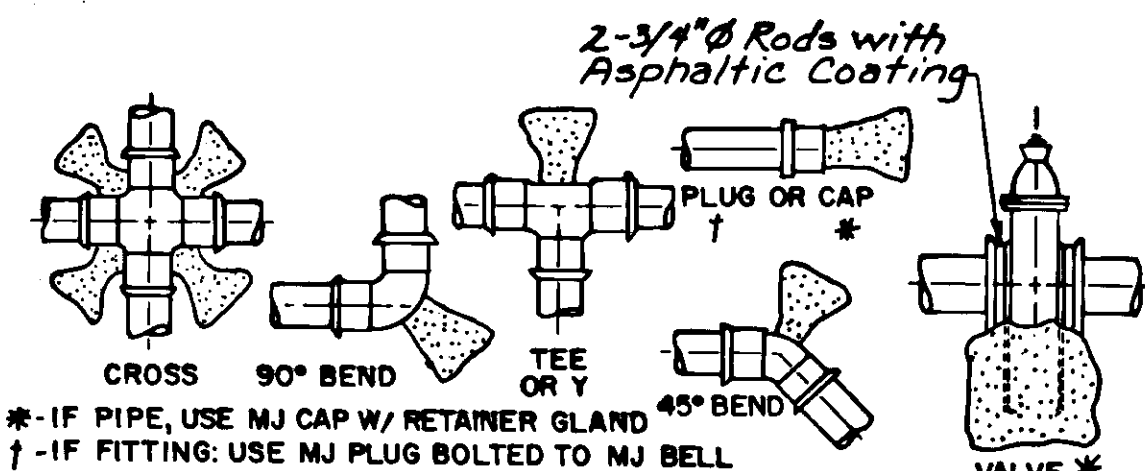


AIR RELEASE VALVE DETAIL



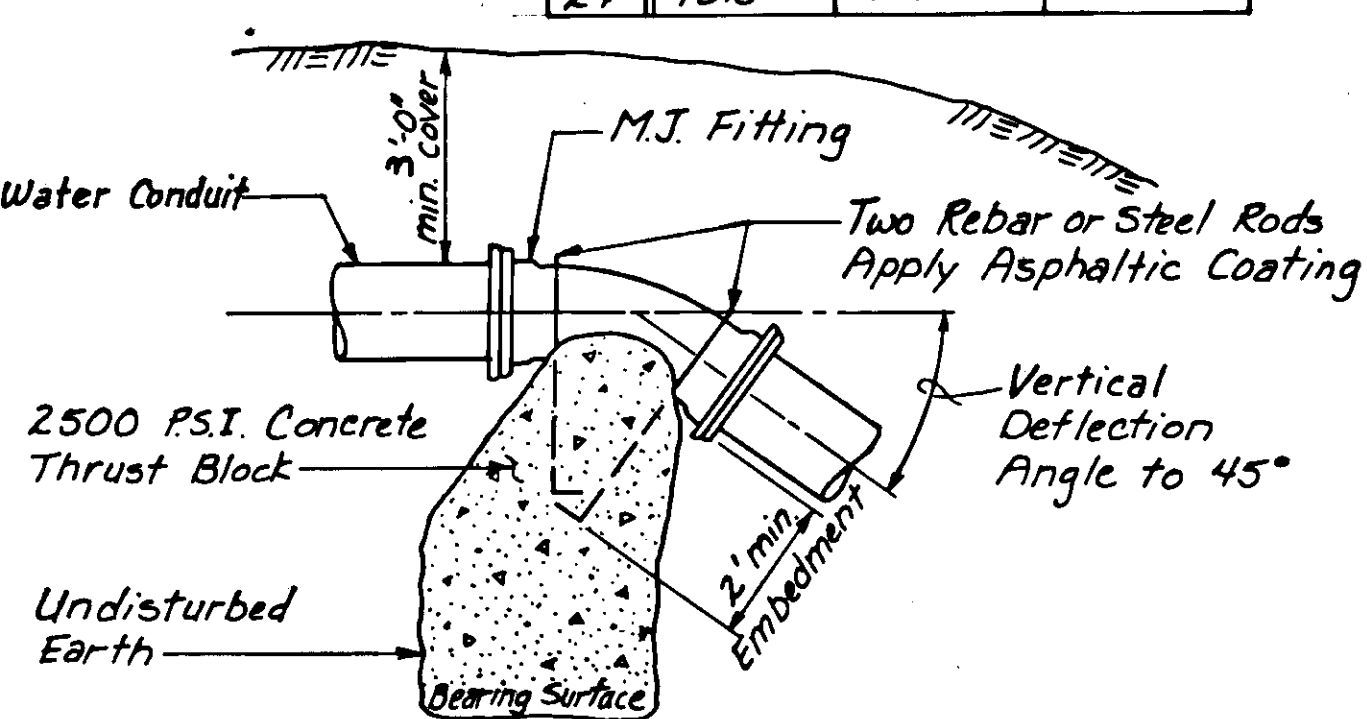
FOR BENDS 45° - 90°

PIPE SIZE	MIN. CONC. VOL. (CU. YD.)	MIN. ROD SIZE	MIN. BRG. SURFACE SQ. FT.
6"	1.0	3/4"	3.0
8"	1.5	3/4"	3.5
10"	2.5	3/4"	5.5
12"	3.5	3/4"	8.0
14"	4.7	1"	10.0
16"	6.2	1 1/8"	12.5
18"	7.8	1 1/4"	15.5
20"	9.6	1 3/8"	19.0
24"	13.8	1 1/2"	28.0



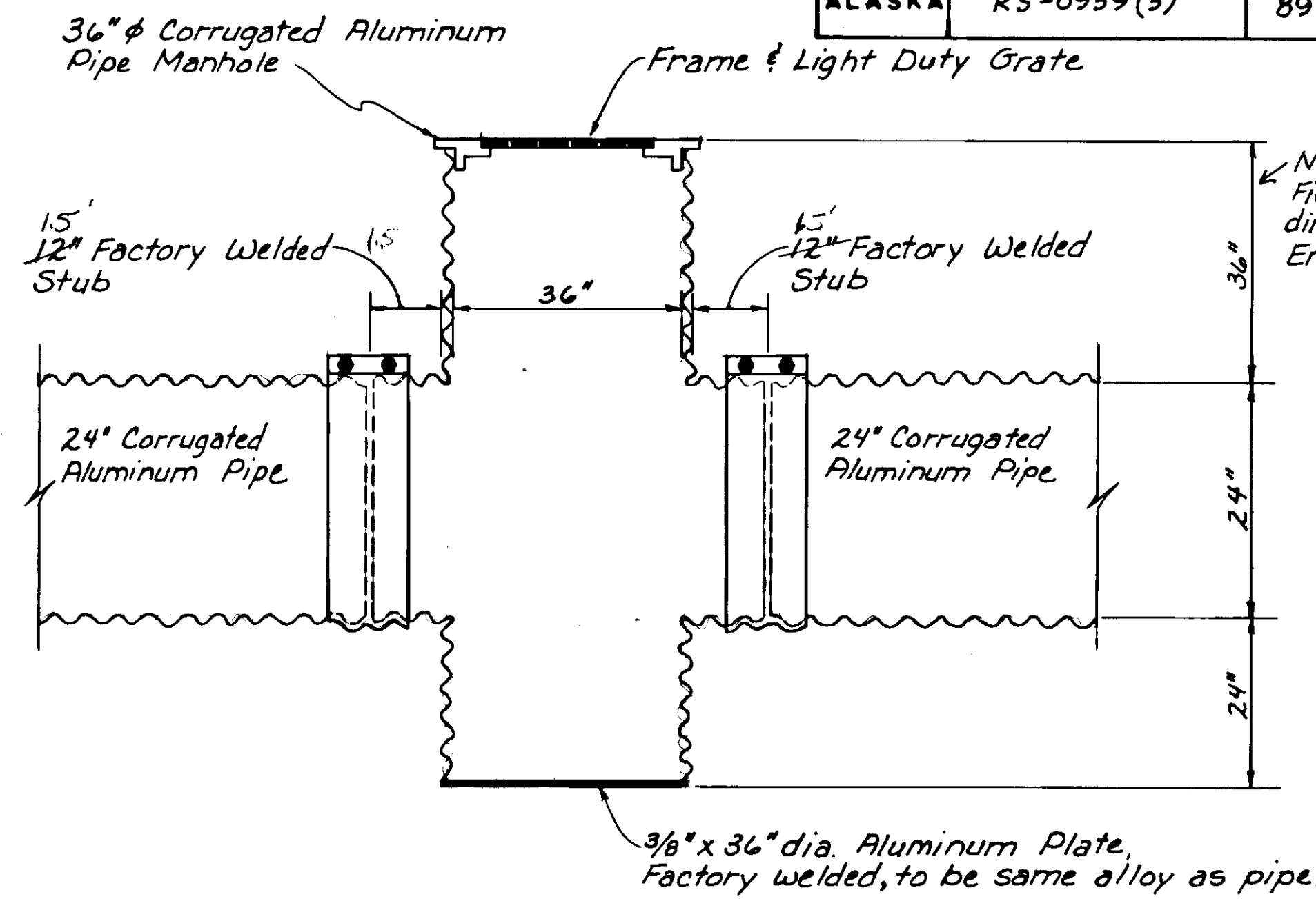
PIPE SIZE	90° BEND/TEE/PLUG		45° BEND OR LESS/CROSS		VALVES
	MIN. BRG. AREA SQ. FT.	MIN. CONC. VOL. CU. YD.	MIN. BRG. AREA SQ. FT.	MIN. CONC. VOL. CU. YD.	MIN. CONC. VOL. CU. YD.
4"	2.3	0.3	1.0	0.25	N/A
6"	3.0	0.3	1.6	0.25	0.25
8"	5.3	0.5	3.0	0.3	0.5
10"	8.3	0.75	4.5	0.5	0.5
12"	12.0	1.0	6.5	0.75	0.5
14"	16.5	1.0	9.0	0.75	0.75
16"	21.8	1.25	12.0	1.0	0.75
18"	27.0	1.50	15.0	1.0	1.0
20"	34.0	1.75	18.0	1.5	1.0
24"	48.0	2.0	26.3	1.5	1.0

* Thrust blocks on valves required only on main lines.

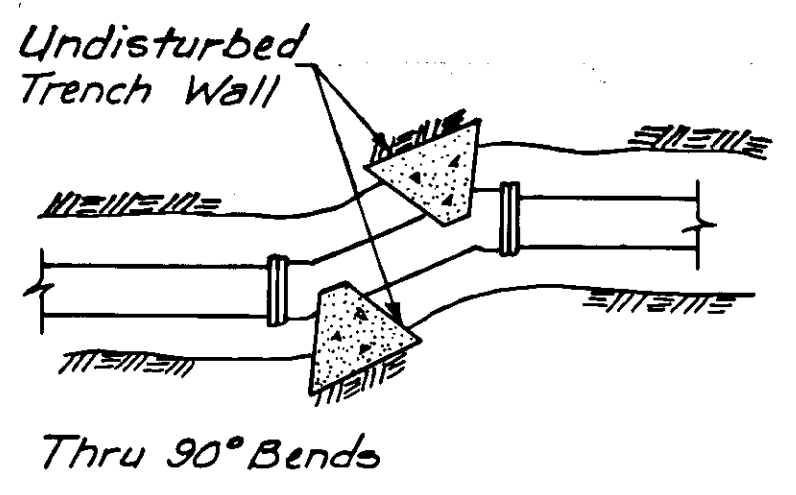


VERTICAL THRUST BLOCKS
N.T.S.

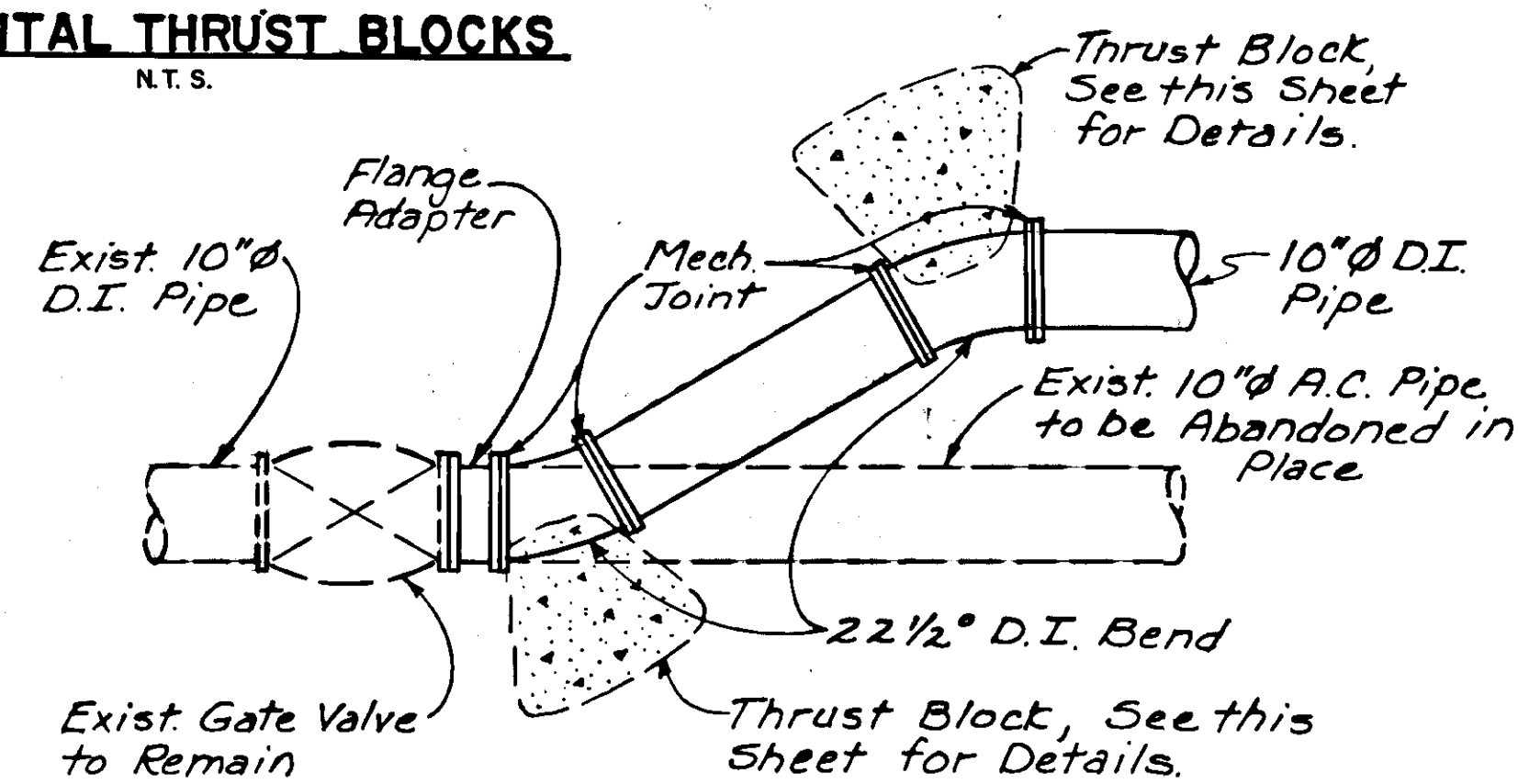
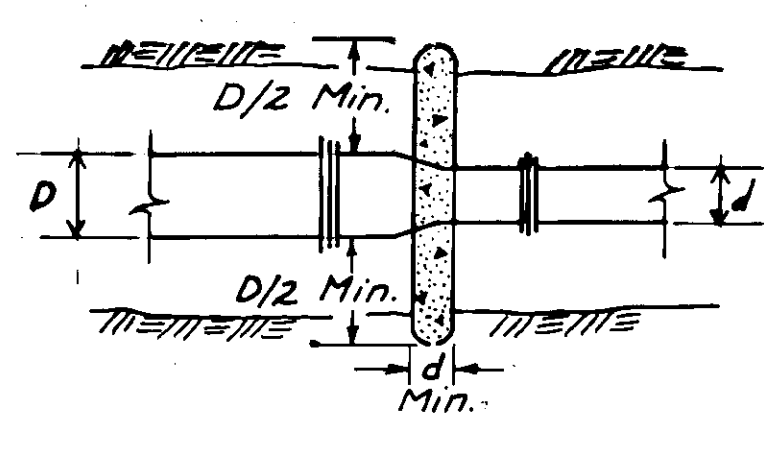
HORIZONTAL THRUST BLOCKS
N.T.S.



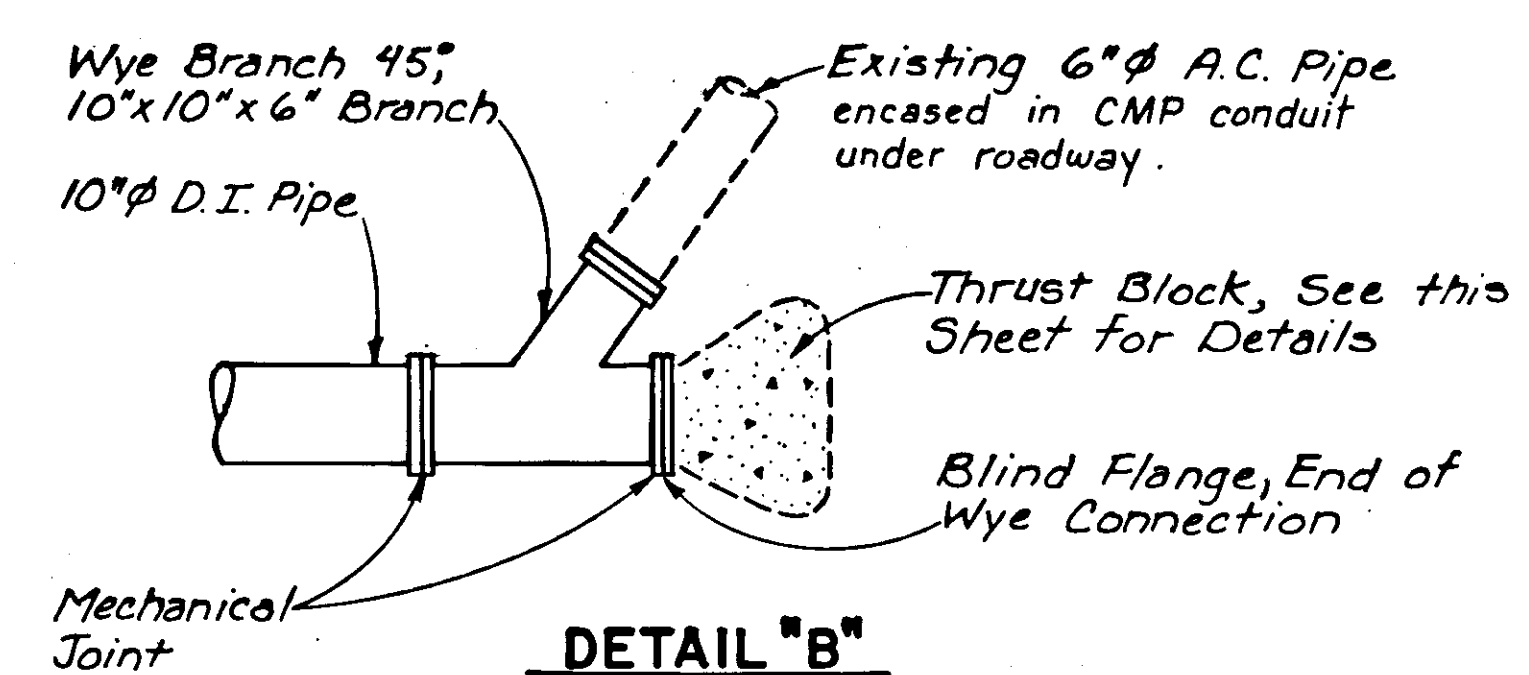
CORRUGATED ALUMINUM PIPE MANHOLE
N.T.S.



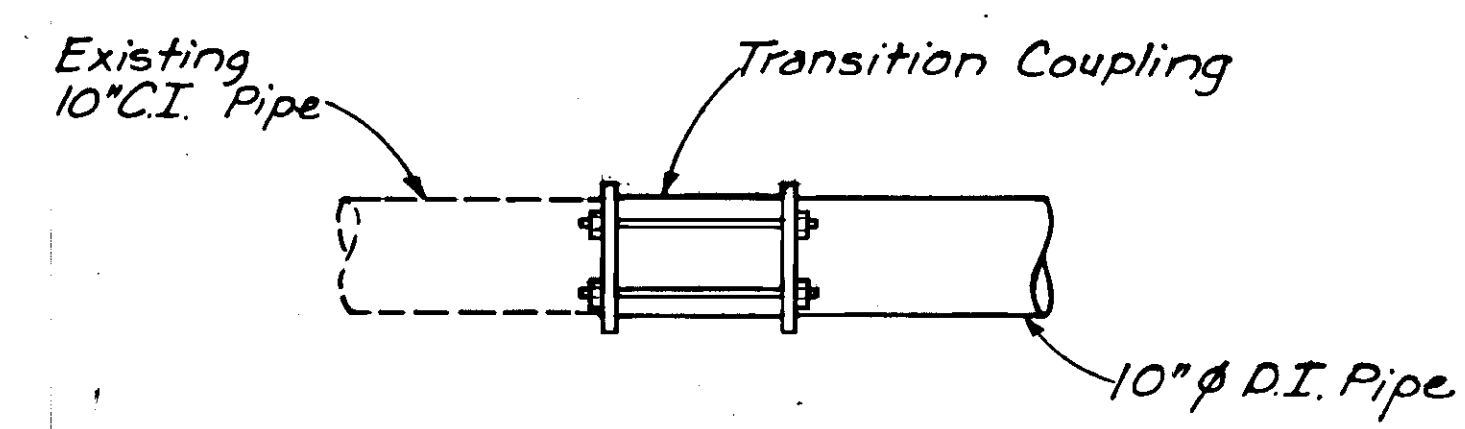
PLACEMENT OF THRUST BLOCKS
N.T.S.



DETAIL "A"
N.T.S.

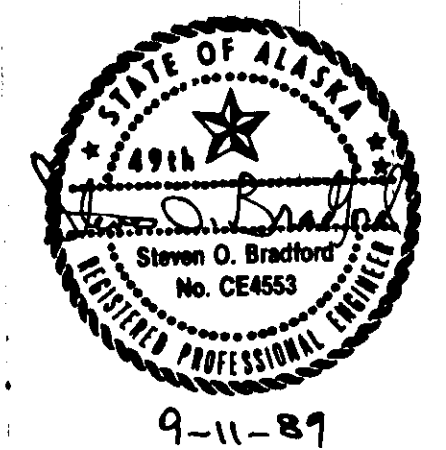


DETAIL "B"
N.T.S.

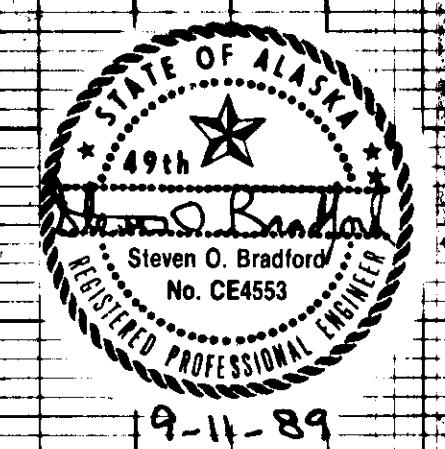
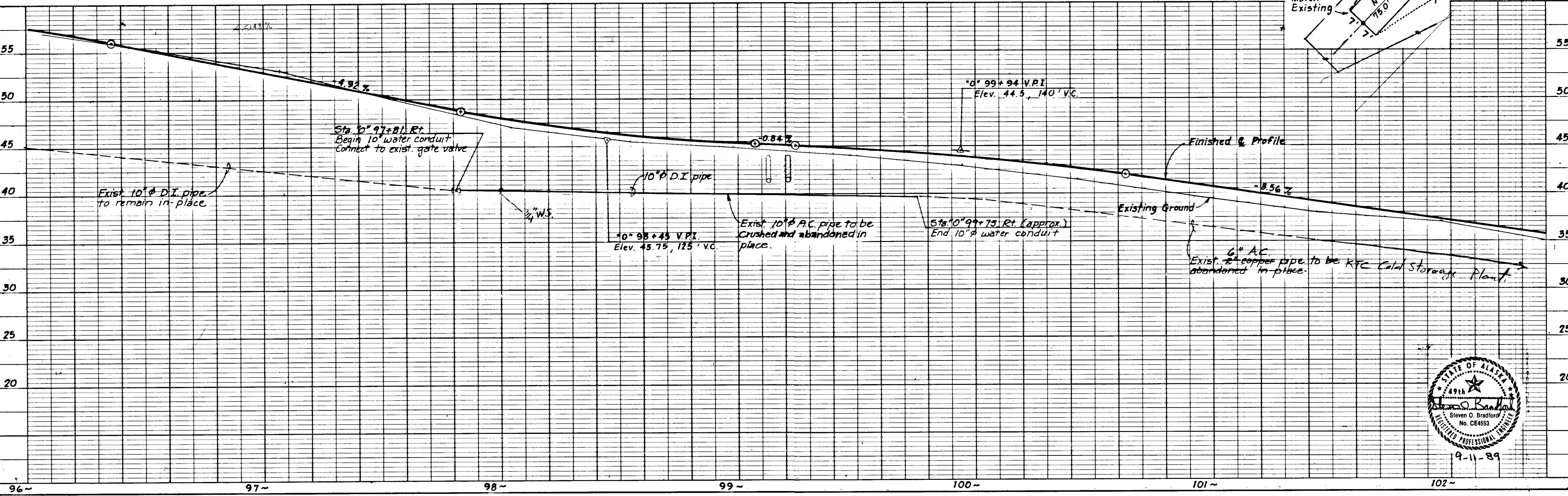
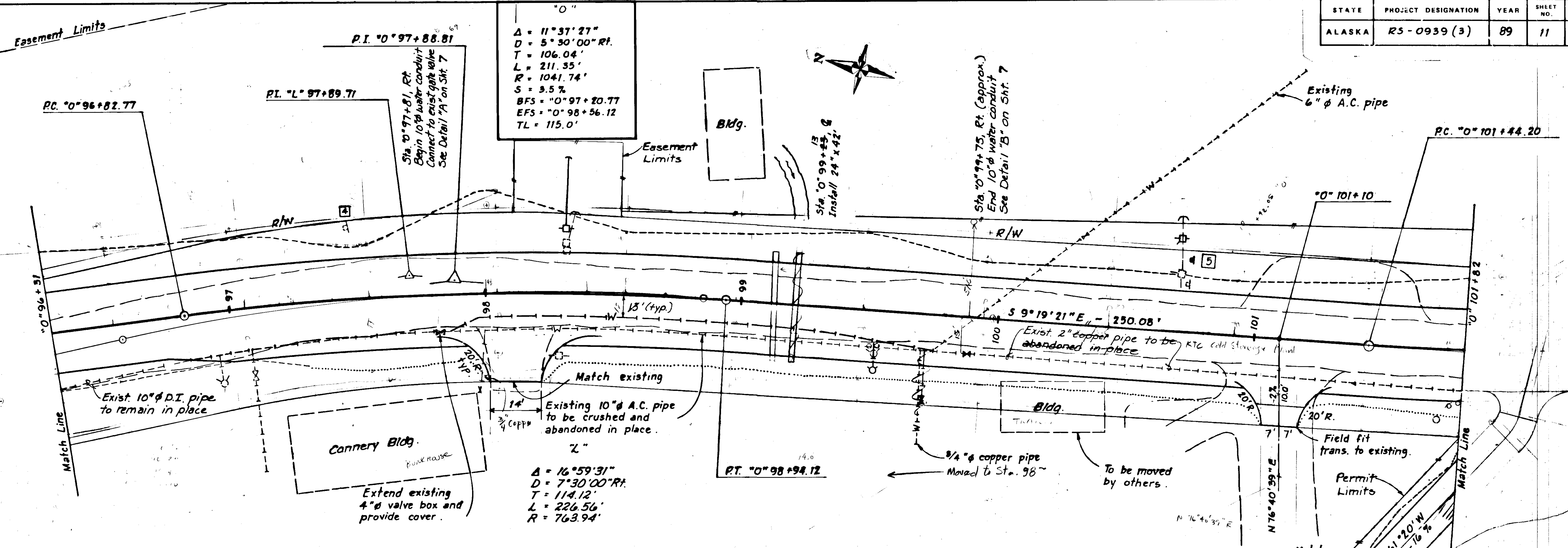


DETAIL "C"
N.T.S.

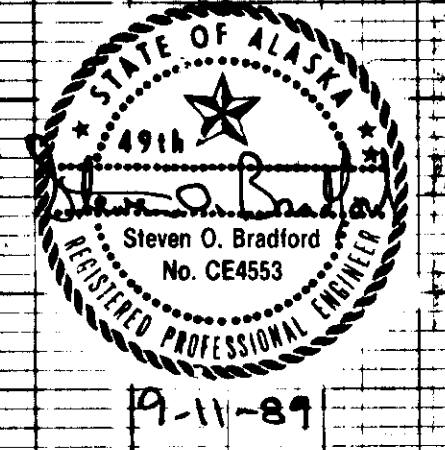
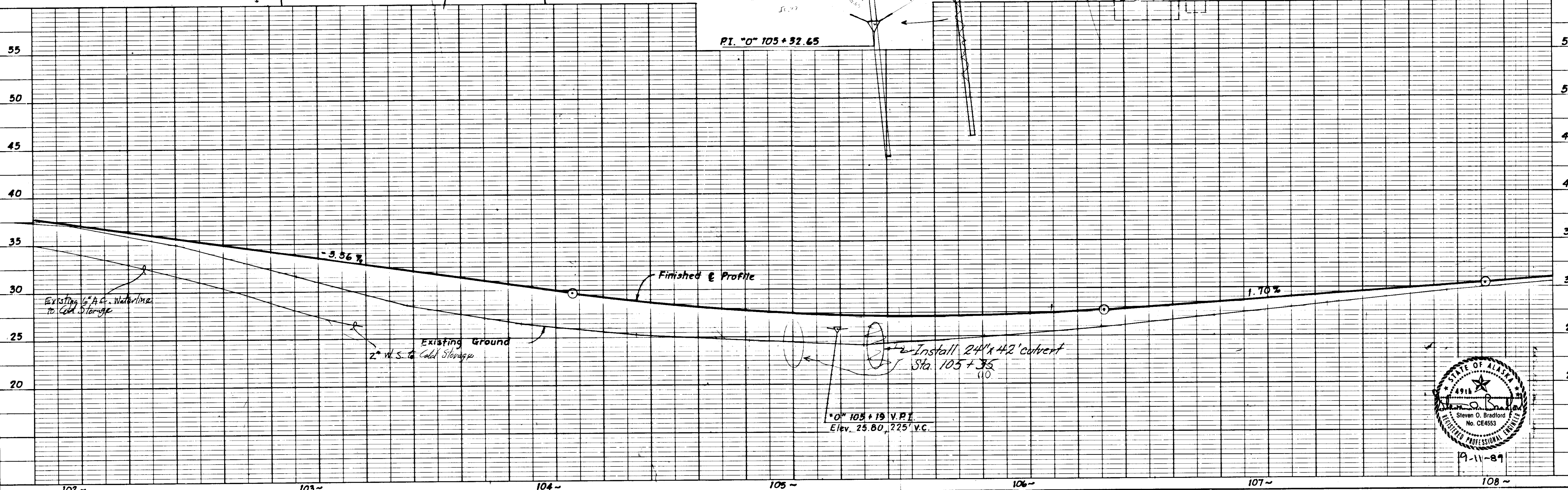
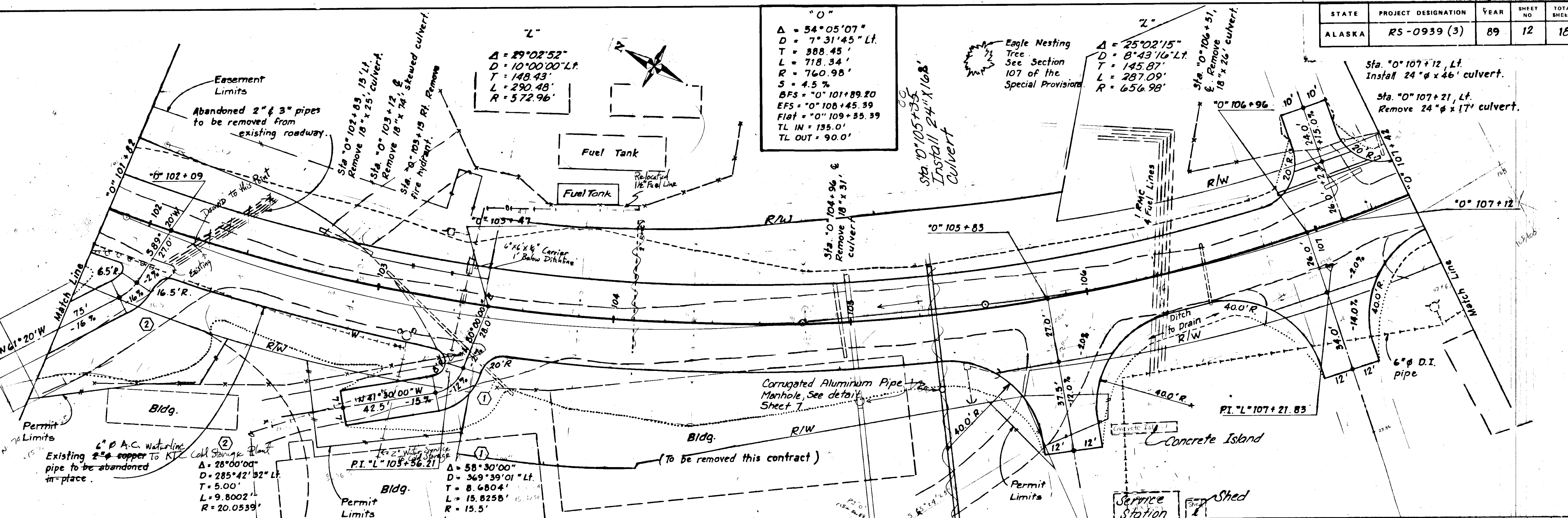
- NOTES:**
1. Thrust blocks are required whenever pipeline changes direction, changes size, dead ends, or develops thrust at valves.
 2. Volume and bearing surface of 2500 PSI concrete thrust blocks, based on 150 PSI pressure and soil bearing capacity of 2000 P.S.F. all other pressure and/or soil conditions are subject to Engineers review and approval.
 3. Concrete thrust blocking shall be poured in place between the fitting and undisturbed earth. Material behind the thrust blocks, deemed inadequate by the Engineer, shall be removed and replaced by a ballast material, the extent and quality of replacement material to be determined by the Engineer.
 4. Thrust blocks shall be poured so joints of fittings remain clear.
 5. Contractor may opt to use joint restraint instead of concrete thrust block when pipeline changes direction. Joint restraint shall conform to Section 707-2.05 of the Specifications.



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	R5-0939 (3)	89	11	18

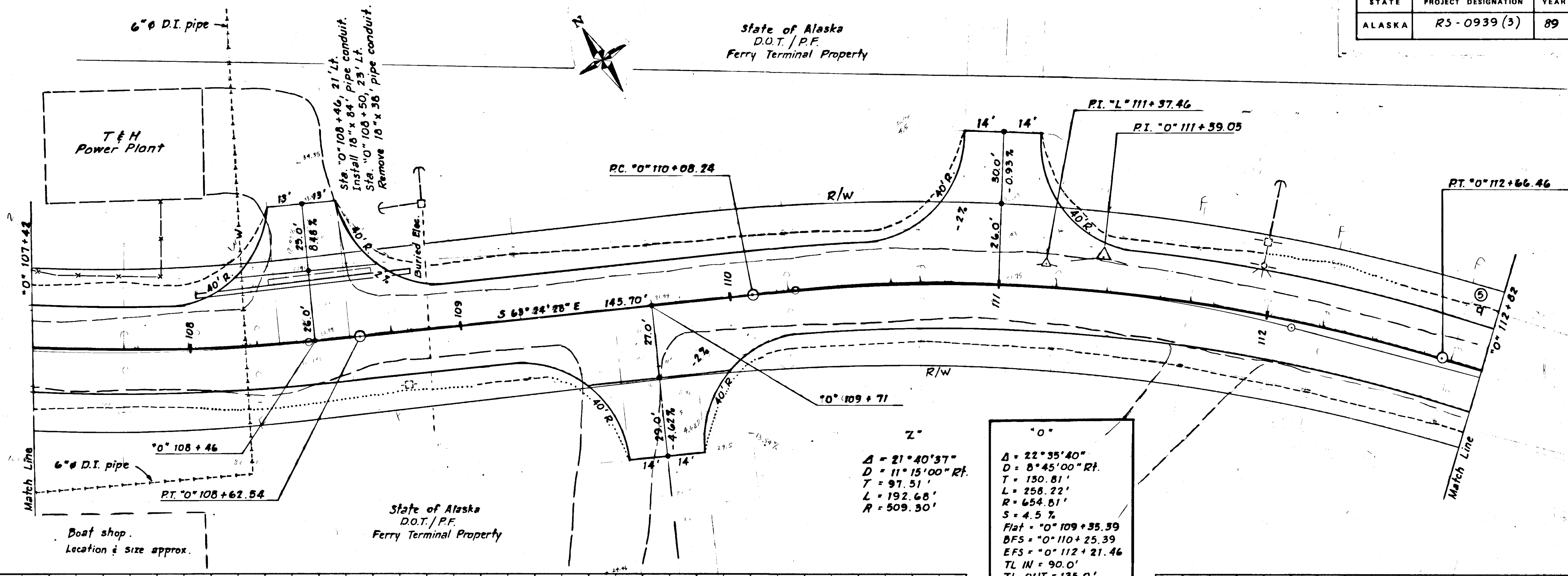
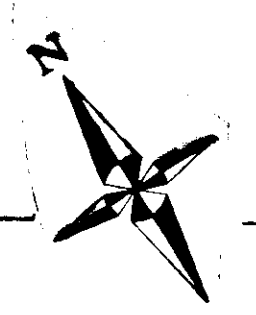


STATE	PROJECT DESIGNATION	YEAR	SHEET NO	TOTAL SHEETS
ALASKA	RS-0939 (3)	89	12	18

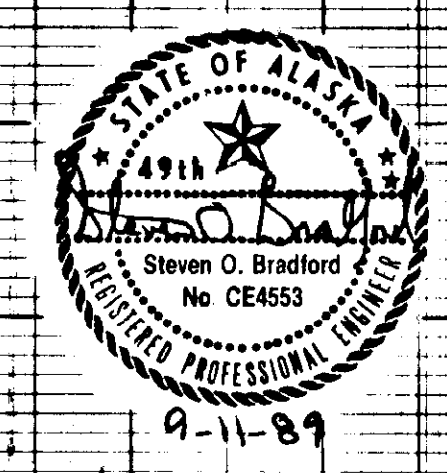
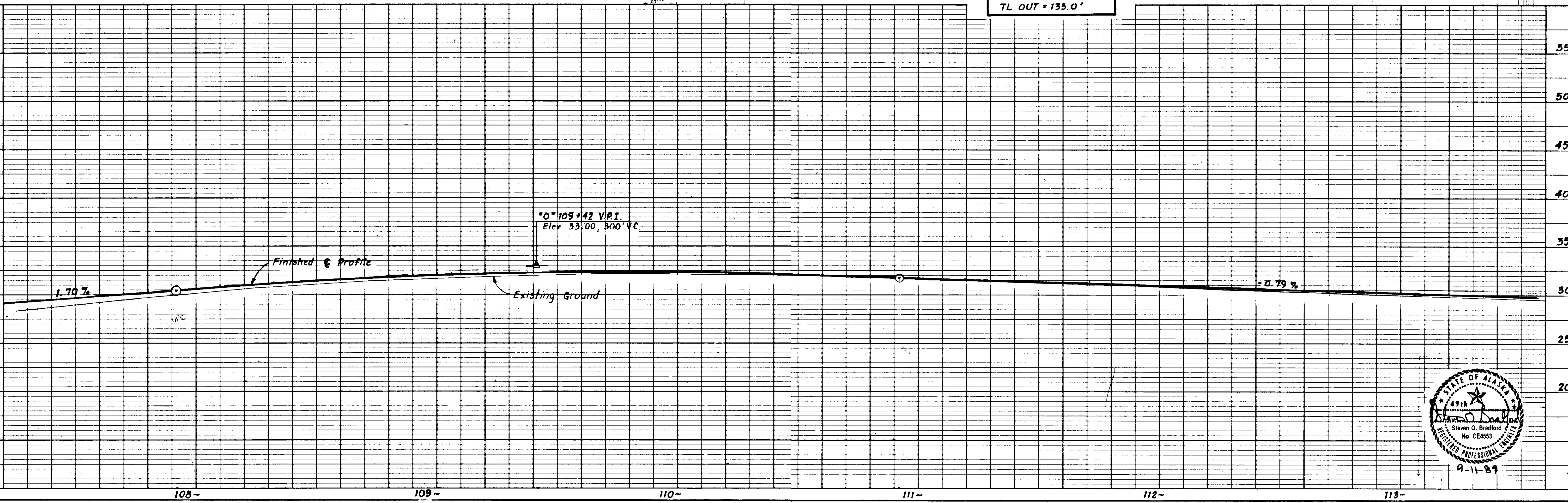


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939 (3)	89	13	18

State of Alaska
D.O.T./P.F.
Ferry Terminal Property

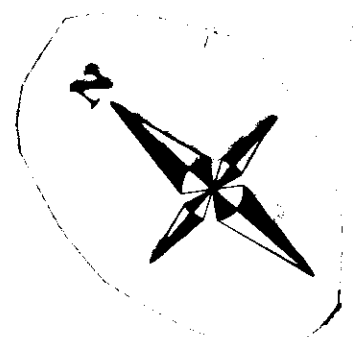


"Z"		"0"	
$\Delta = 21^\circ 40' 37''$	$D = 8^\circ 45' 00'' \text{ Rf.}$	$\Delta = 22^\circ 35' 40''$	$D = 8^\circ 45' 00'' \text{ Rf.}$
$T = 97.51'$	$L = 192.68'$	$T = 130.81'$	$L = 258.22'$
$R = 509.30'$		$R = 654.81'$	$S = 4.5\%$
		$\text{Flat} = 109+35.39$	$\text{BFS} = 110+25.39$
		$\text{EFS} = 112+21.46$	$\text{TL IN} = 90.0'$
			$\text{TL OUT} = 135.0'$

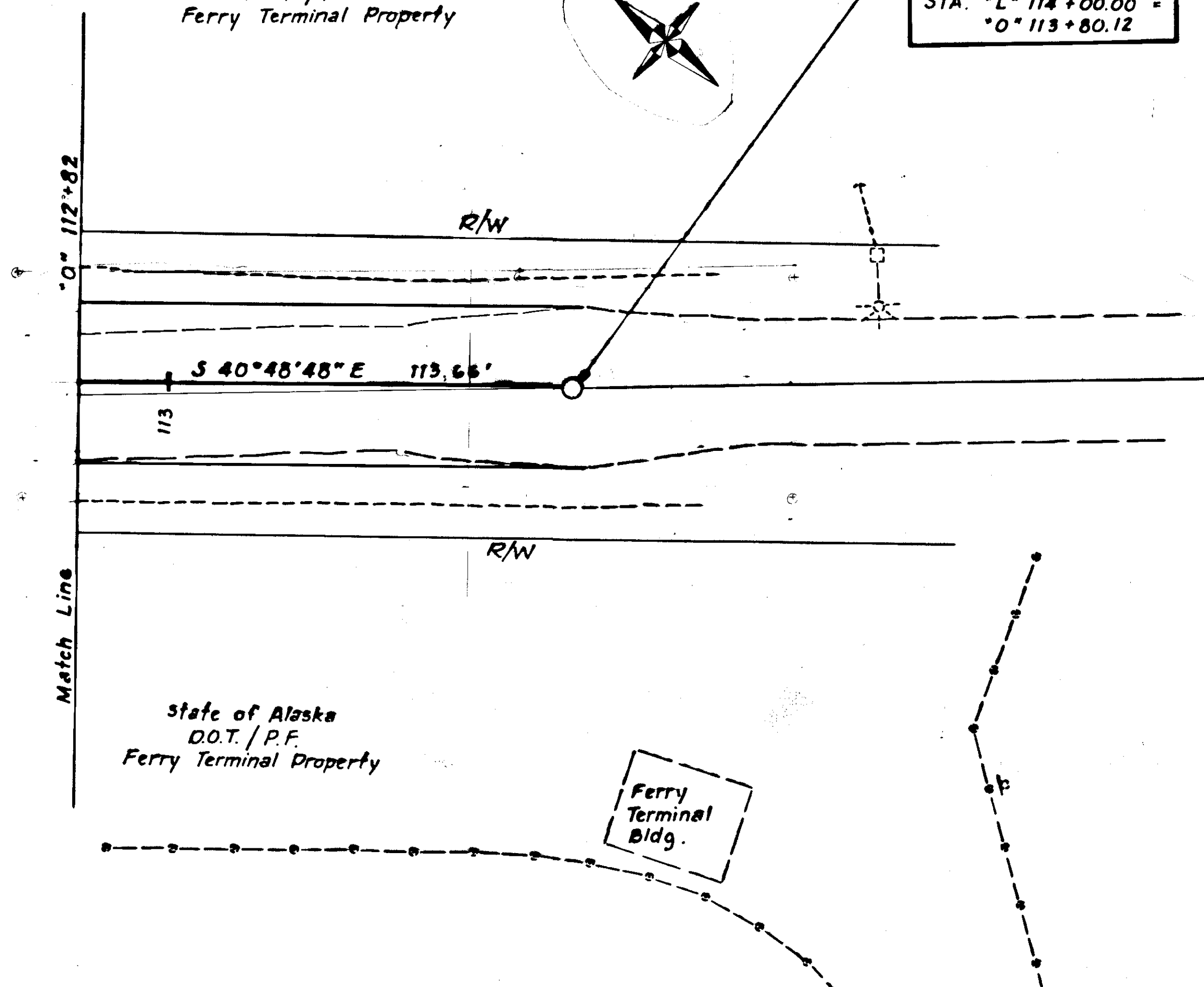


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939 (3)	89	14	18

State of Alaska
D.O.T./P.F.
Ferry Terminal Property

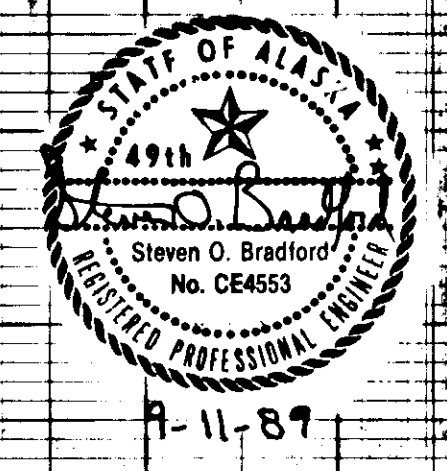
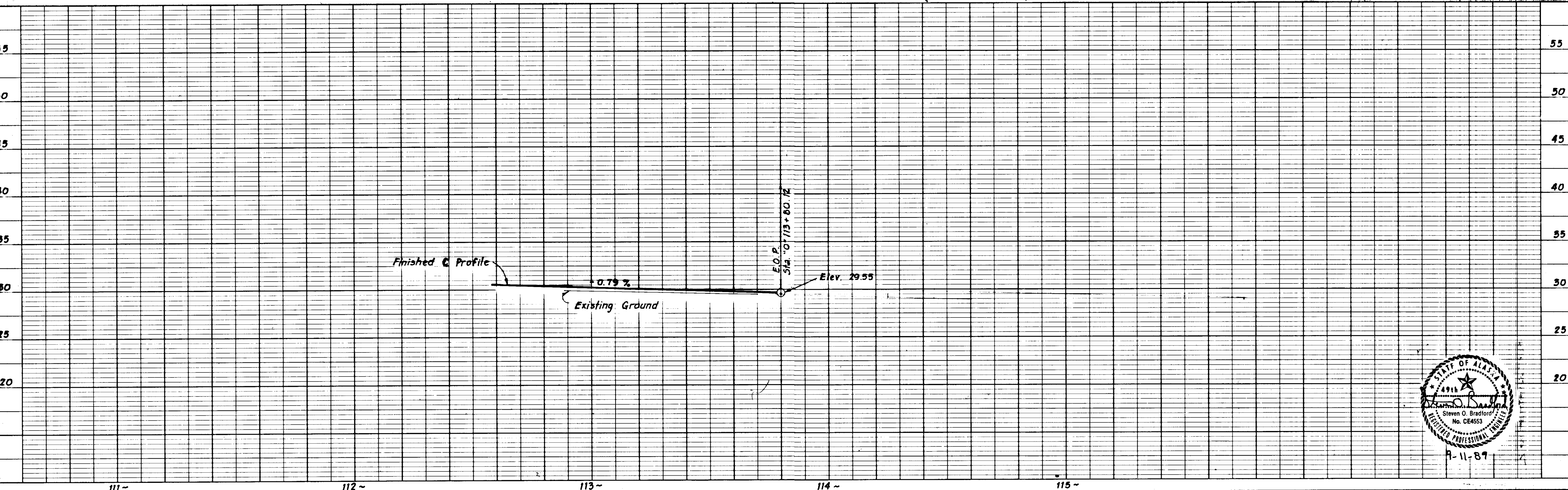


E.O.P.
73499.688 N 35359.244E
STA. "L" 114+00.00 =
"O" 113+80.12

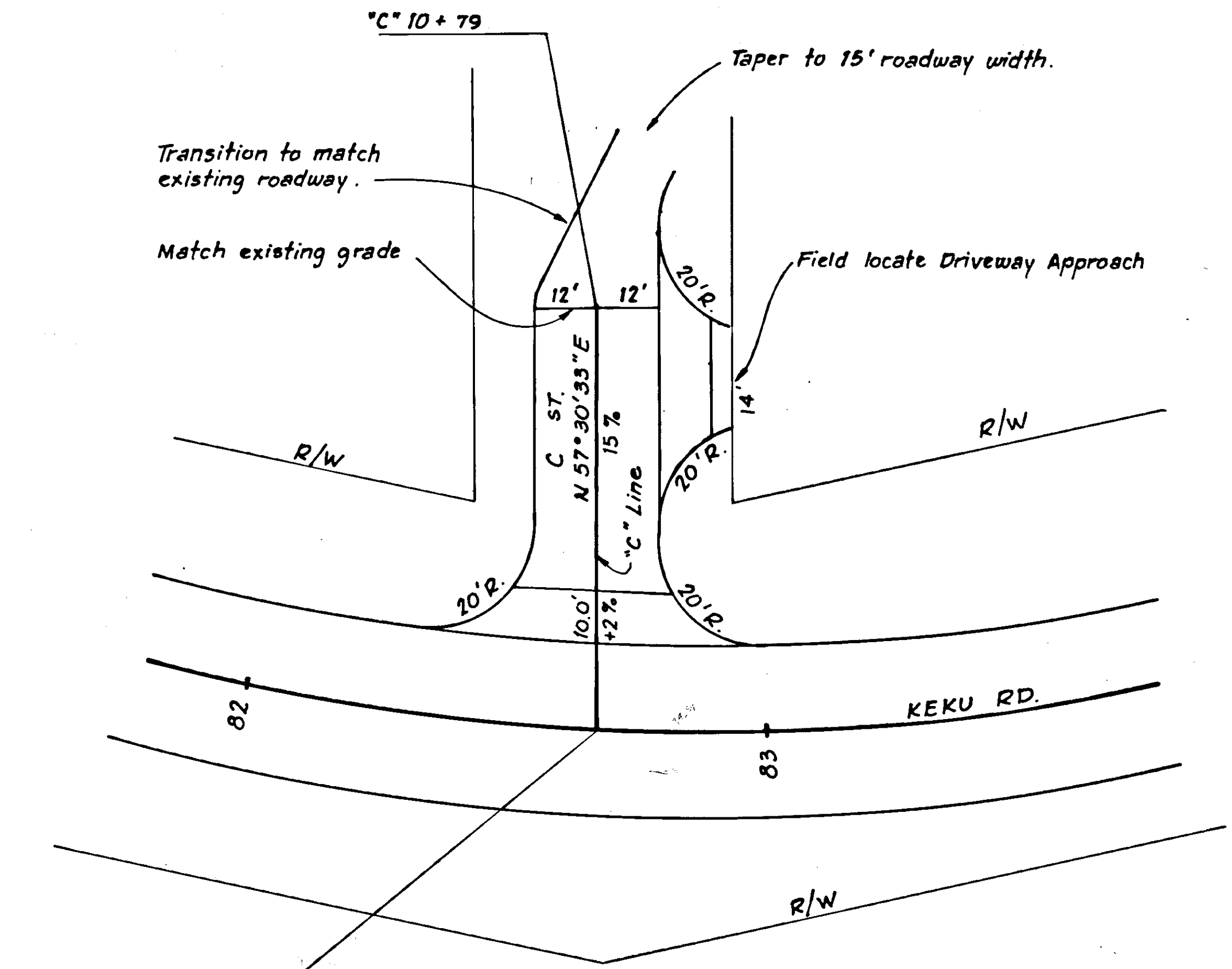


State of Alaska
D.O.T./P.F.
Ferry Terminal Property

Ferry Terminal Bldg.

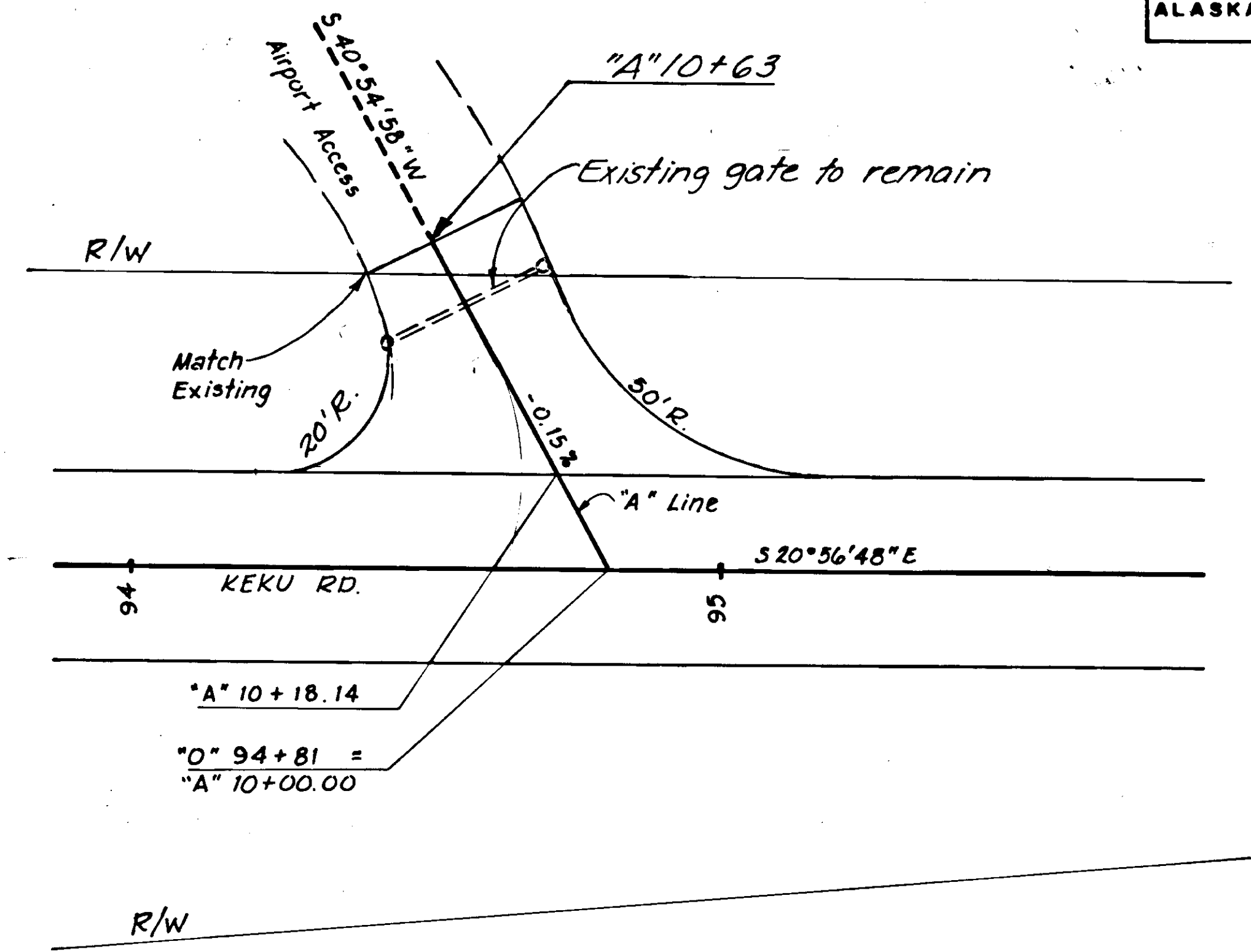


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939(3)	89	15	18



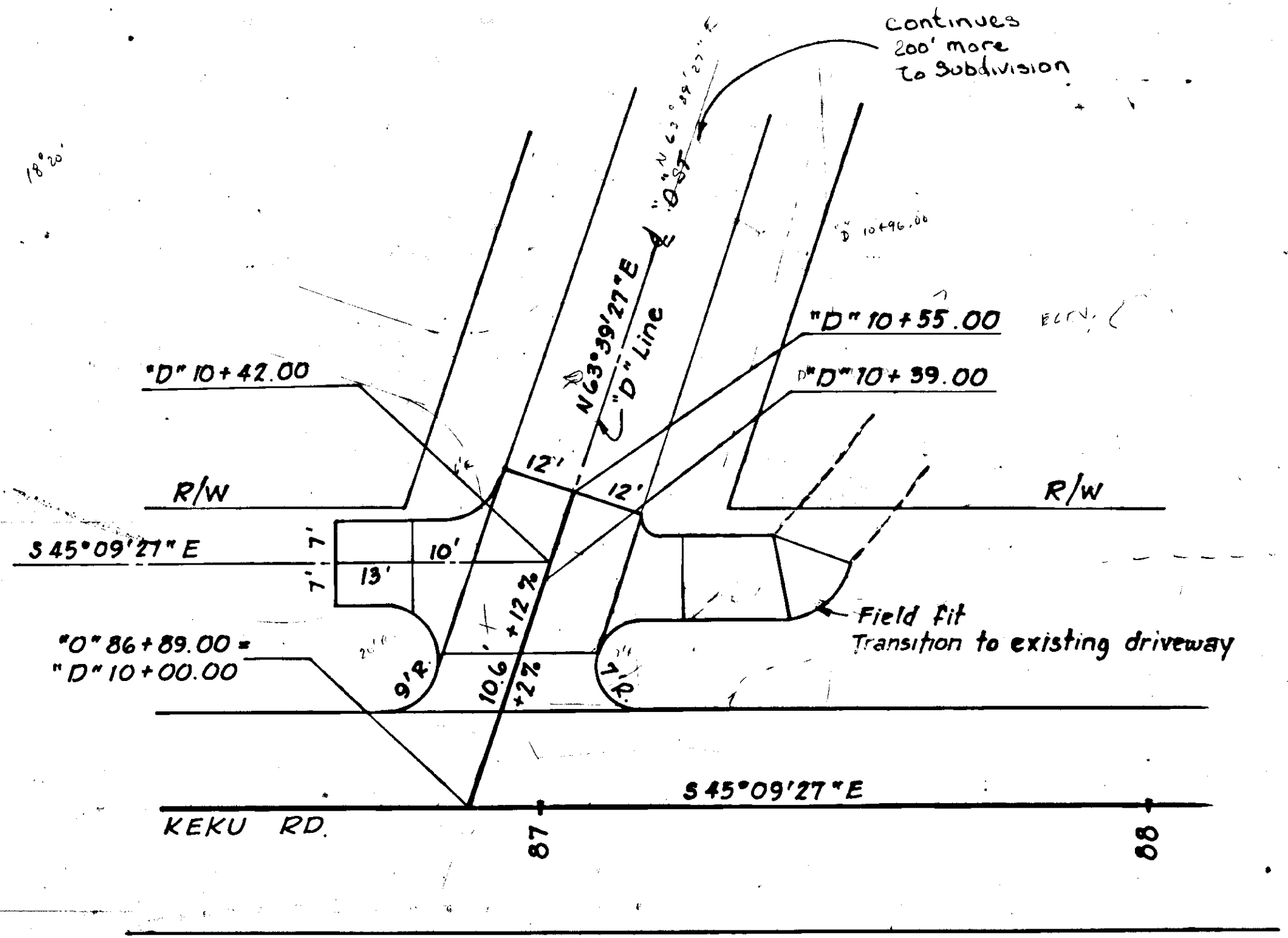
"C" ST. INTERSECTION

$0+82+69.07 =$
 $C+10+00.00$



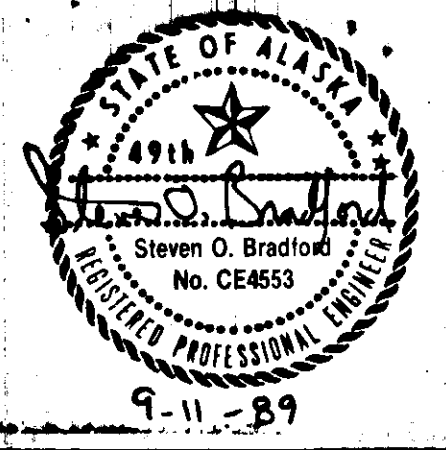
AIRPORT ACCESS INTERSECTION

$A+10+18.14$
 $0+94+81 =$
 $A+10+00.00$

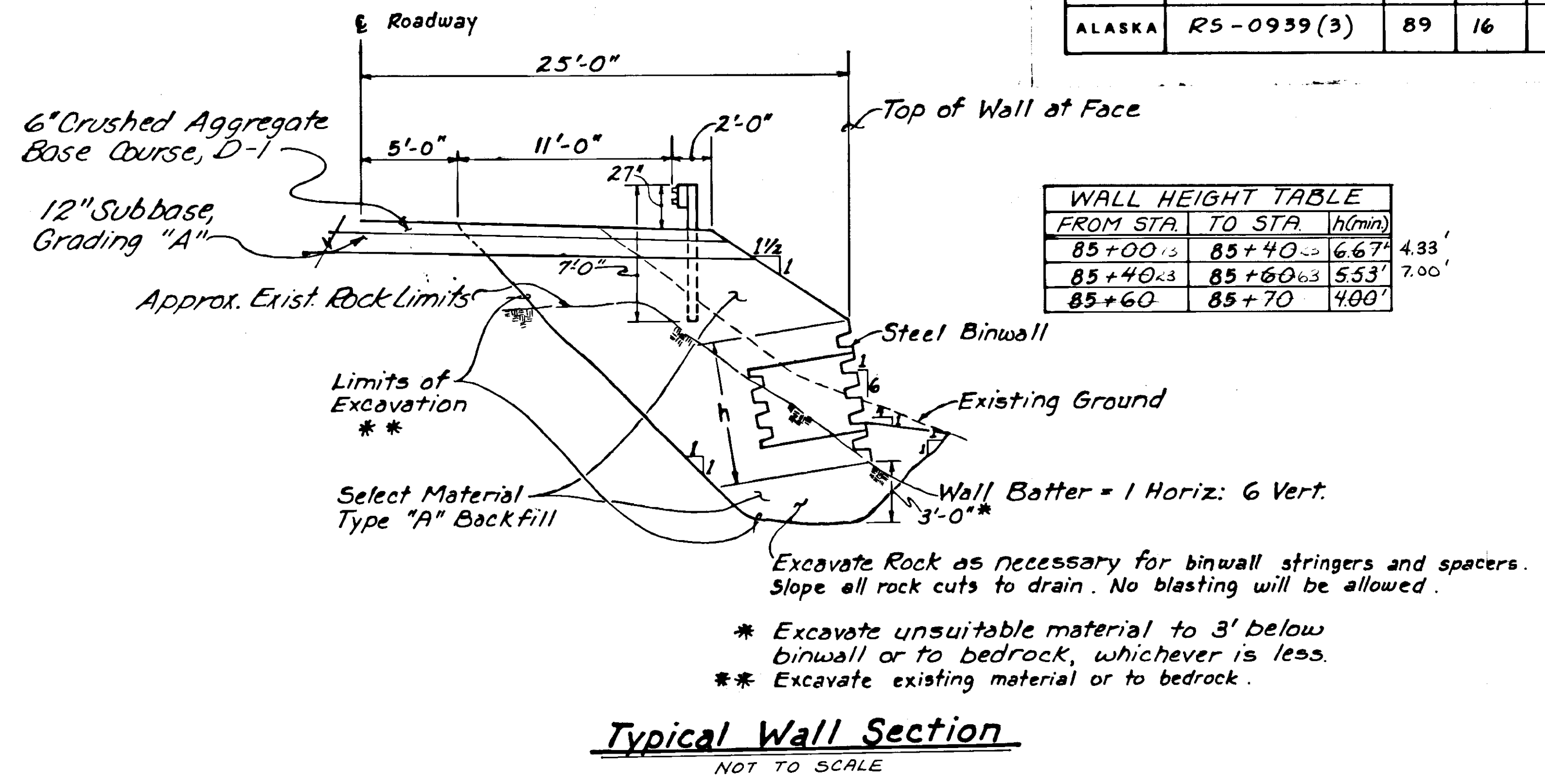
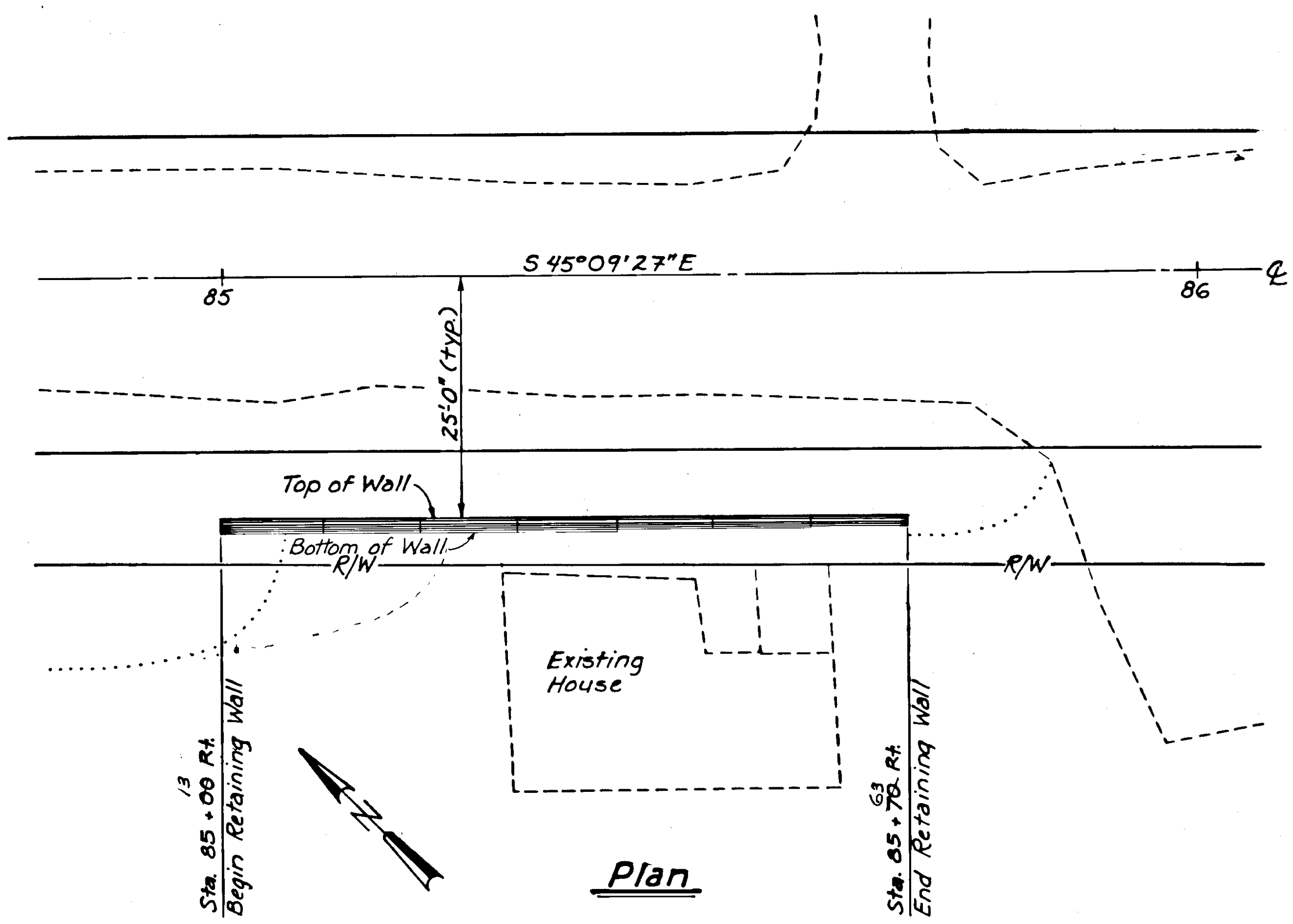


"D" ST. INTERSECTION

$0+86+89.00 =$
 $D+10+00.00$



STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	RS-0939(3)	89	16	18



FROM STA	TO STA	h(min)	
85+00 ^{1/3}	85+40 ^{6/3}	6.67'	4.33'
85+40 ^{2/3}	85+60 ^{6/3}	5.53'	7.00'
85+60	85+70	4.00'	

Retaining Wall Notes

Specifications

Design: AASHTO Standard Specifications for Highway Bridges, 1989 Edition.

Construction: State of Alaska Standard Specifications for Highway Construction, 1988, and Special Provisions.

Design Loads

Live Load: HS-20 (2 ft surcharge)
 Backfill Density: 120 lbs./cu.ft.
 Equivalent Fluid Pressure: 33.6 lbs./cu.ft.
 Maximum Toe Pressure: 1.8 Kips/sq.ft.

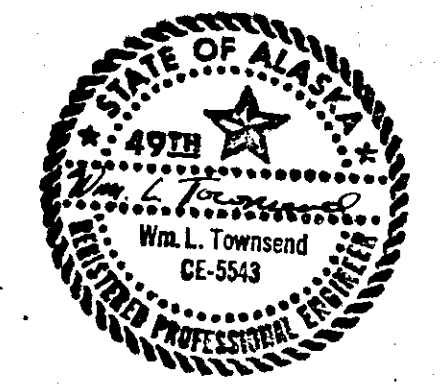
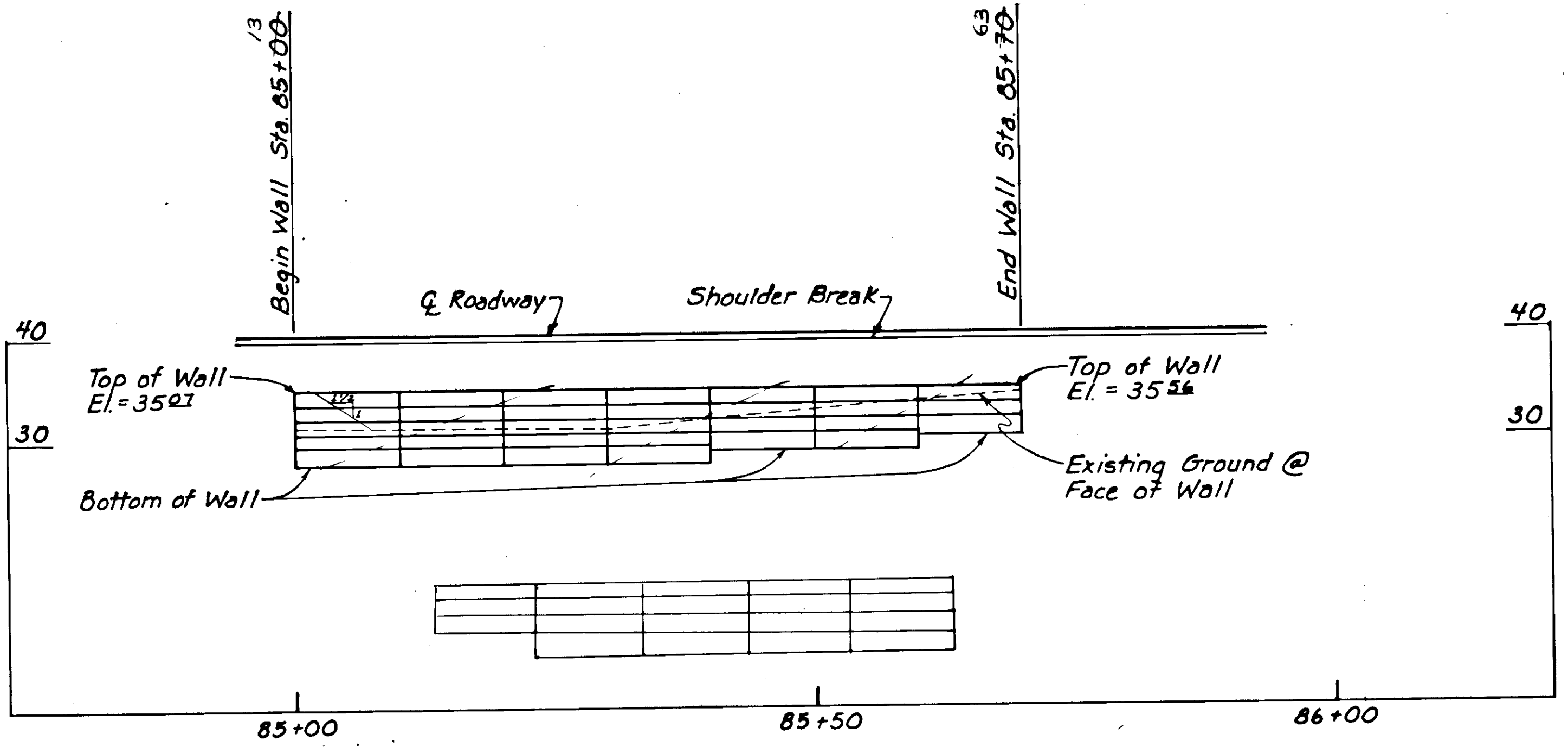
Materials

Binwalls: Base metal and zinc coating shall conform to the requirements of ASTM A444. Steel for stringers and spacers shall be 16 ga. (min.) Hardware for binwalls shall be galvanized and conform to ASTM A307.

Backfill: Select Material, Type A.

Construction

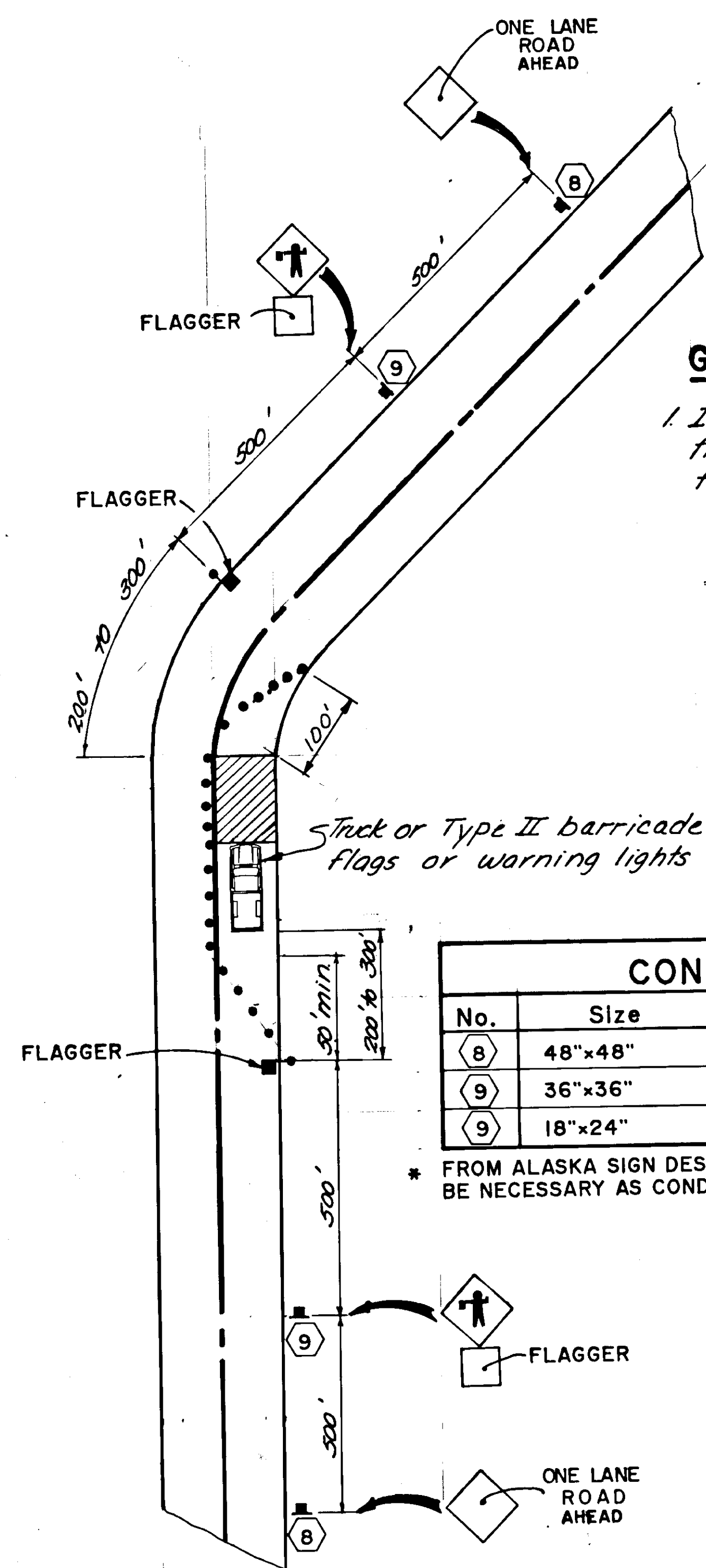
Binwalls may be modified to minimize rock excavation as recommended by the manufacturer and as approved by the Engineer. The estimated quantity of rock excavation for the metal binwalls is 15 yards.



LEGEND

- ◆ Signs
- Channelizing Device
- ⏏ Flag Person (flagger)
- I Type II Barricades.

QUAN.	DESIGNATION	SIZE	PERMANENT	CONSTRUCTION	SIGNING
			COMMENT		
4	CW20-1F	48"X48"	Road Construction Ahead @ B.O.P., E.O.P. at Ferry Terminal facing arriving Vehicles & on Airport Road		
2	G20-2	60"X24"	End Construction @ B.O.P. & E.O.P.		

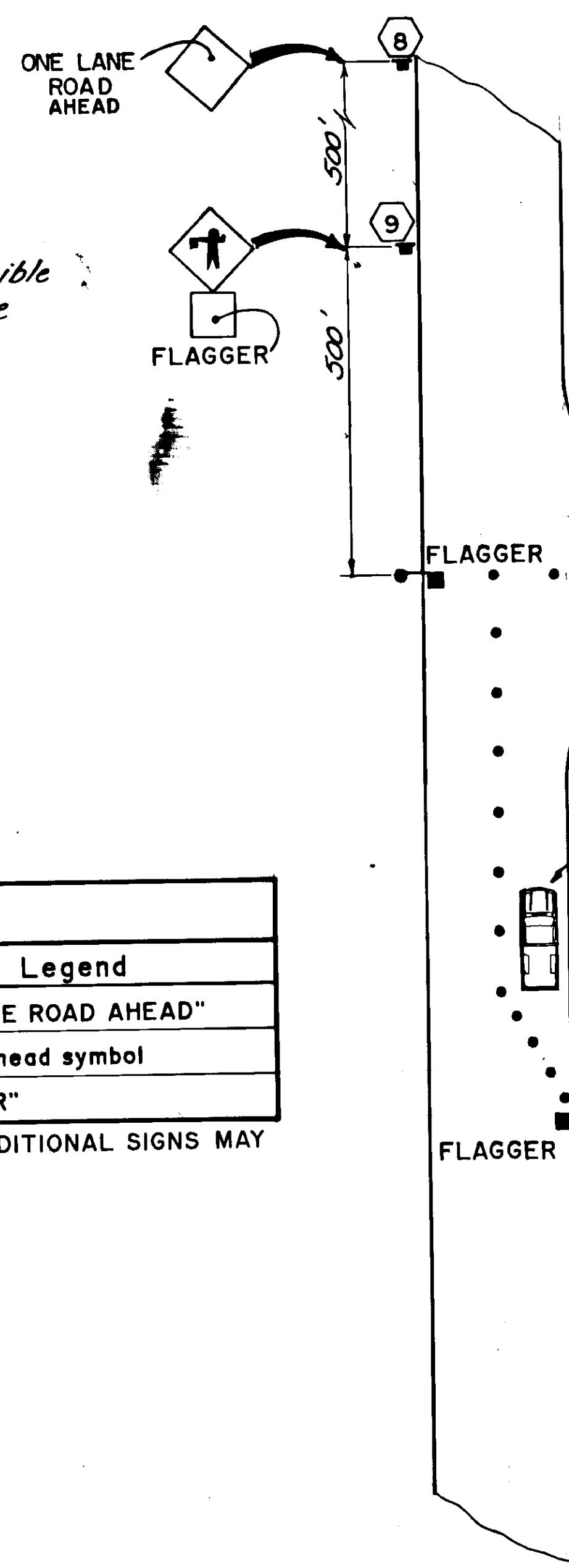


GENERAL NOTES

1. If entire work area is visible from one station, single flagger may be used.

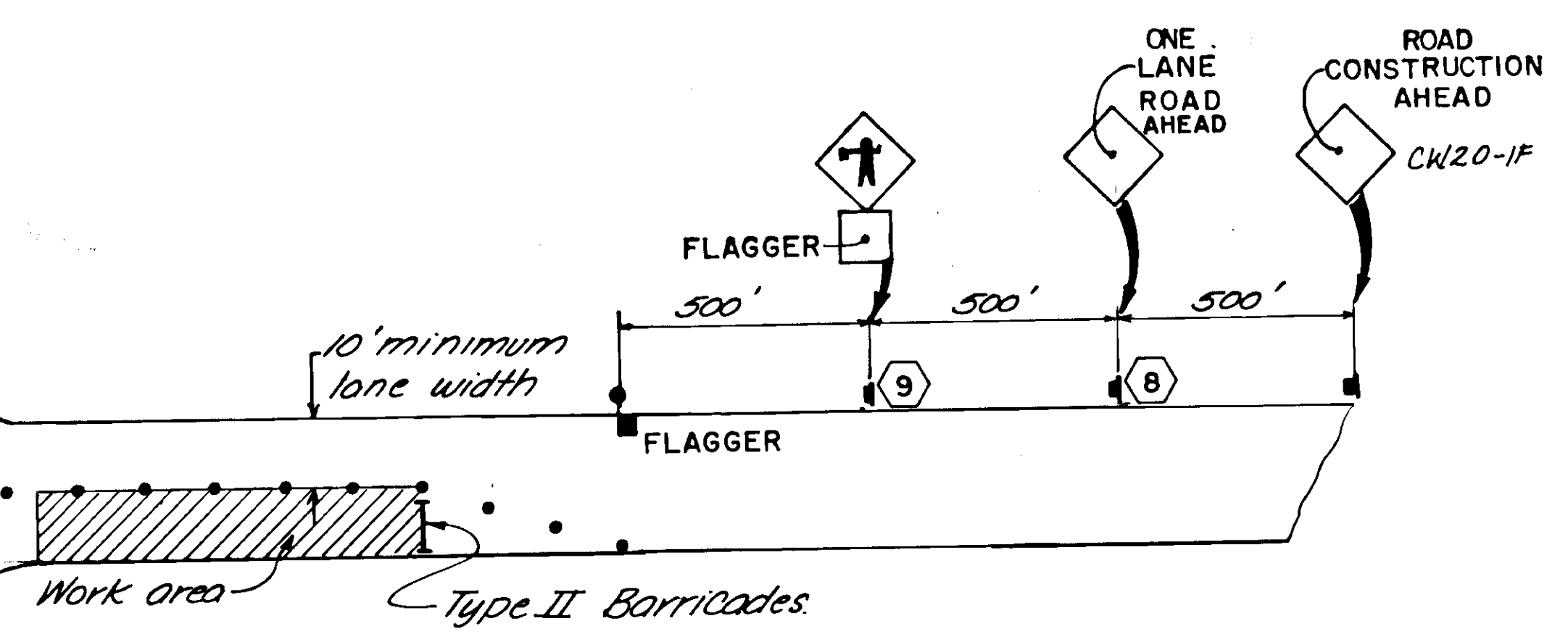
No.	Size	*Designation	Legend
8	48"X48"	CW20-4F	"ONE LANE ROAD AHEAD"
9	36"X36"	CW20-7	Flagger ahead symbol
9	18"X24"	CW20-7	"FLAGGER"

* FROM ALASKA SIGN DESIGN SPECIFICATION (ASDS). ADDITIONAL SIGNS MAY BE NECESSARY AS CONDITIONS DICTATE.



TYPICAL TRAFFIC CONTROL AT INTERSECTION

N.T.S.

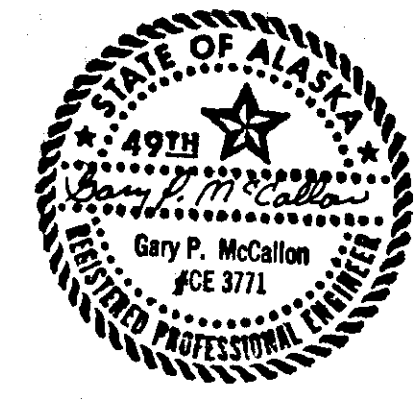


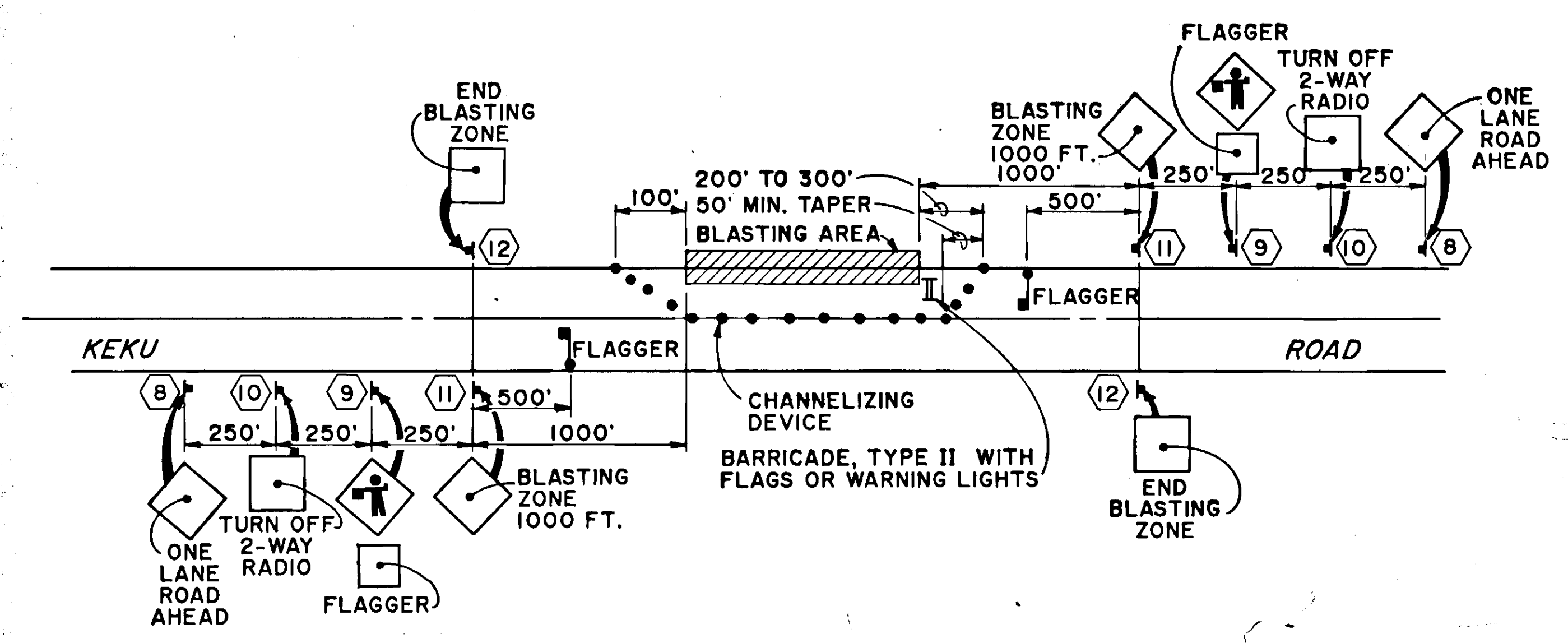
TRAFFIC CONTROL PLAN

1. The Traffic Control Plan (T.C.P.) shall be used in conjunction with & in addition to the Standard Drawings, the Standard & Special provisions and the Alaska Traffic Manual.
2. The contractor shall use the following T.C.P. during the construction of this project. The contractor may submit a T.C.P. of his own, however any changes to this T.C.P. will require written approval of the engineer prior to the beginning of any construction.
3. Construction may be half width construction, however one 10' lane shall be maintained at all times. Two-Way traffic shall be maintained during non-working hours.
4. The contractor shall designate one of his employees whose responsibility shall be the installation & maintenance of all required traffic control devices. All traffic control elements shall be maintained 24 hours a day.
5. See Standard Dwg's C-01.03, C-02.01, & C-03.01 for construction zone flagging, signs and channelization devices.
6. All traffic control devices shall be removed when not needed.
7. Traffic cones used for channelizing devices shall be 28" high with two reflectorized bands on top. Maximum spacing shall be equal to the speed limit in feet.

TYPICAL LANE CLOSURE

N.T.S.





TCP FOR BLASTING

CONSTRUCTION SIGNS

No.	Size	* Designation	Legend
8	48"x48"	CW20-4F	"ONE LANE ROAD AHEAD"
9	36"x36"	CW20-7	Flagger ahead symbol
9	18"x24"	CW20-7	"FLAGGER"
10	42"x36"	CW22-2	"TURN OFF 2-WAY RADIO"
11	48"x48"	CW22-1	"BLASTING ZONE 1000 FT."
12	42"x36"	CW22-3	"END BLASTING ZONE"

* FROM ALASKA SIGN DESIGN SPECIFICATION (ASDS). ADDITIONAL SIGNS MAY BE NECESSARY AS CONDITIONS DICTATE.

