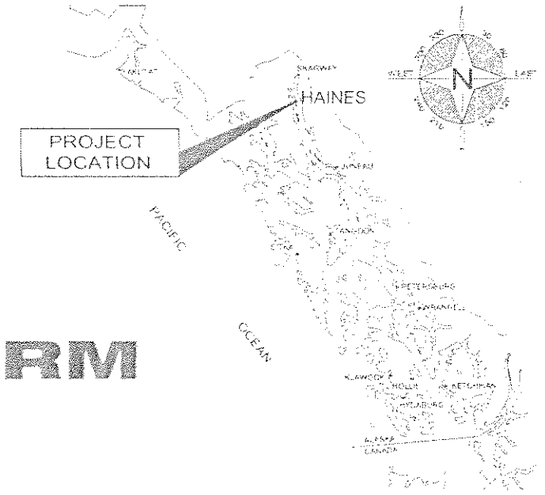
State of Alaska

Department of Transportation and Public Facilities

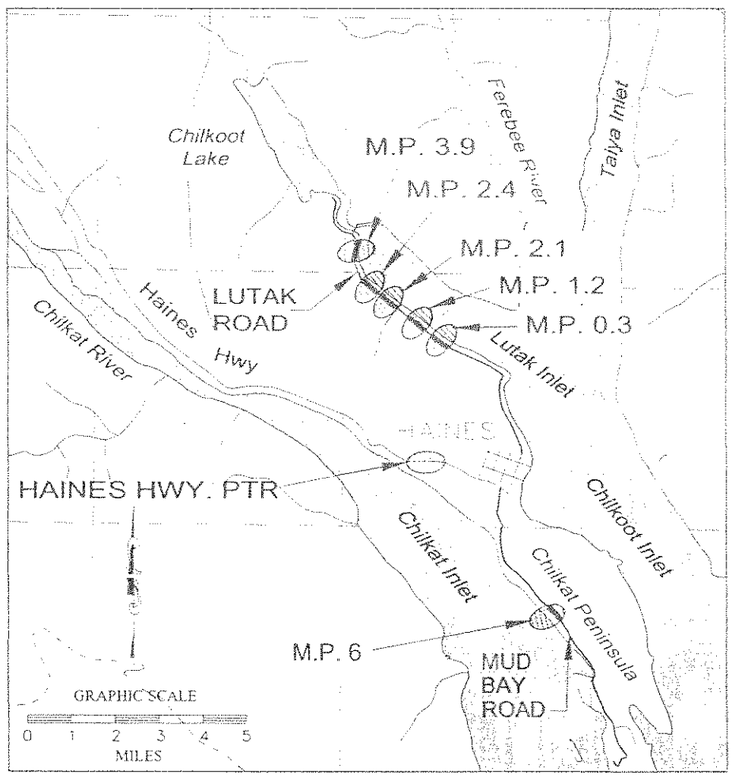
Southeast Region

HAINES, ALASKA

SEA NOVEMBER 2005 STORM
PERMANENT REPAIRS
69236 / ER-0079(2)
HAINES HIGHWAY
PERMANENT TRAFFIC RECORDER
NH-095-6(31) / 67778



SOUTHEAST ALASKA REGION



HAINES VICINITY MAP

PROJECT SUMMARY

LENGTH OF GRADING	=	2415.00 ft. (0.46 mi.)
LENGTH OF PAVING	=	2415.00 ft. (0.46 mi.)
LUTAK ROAD SPEED LIMIT	=	40 MPH
LUTAK ROAD ADT	=	829

THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:

A-1	E-00.00	G-15.10
D-01.02	E-13.00	G-20.10
D-04.21	G-00.01	G-28.00
D-07.00	G-04.07W	G-31.00
D-30.01	G-10.01	I-81.00

INDEX

AS-Builts
Contractor: Southeast Road Builders
Project Engineer : Allen Culbreath
Begin Date. 9-21-08
End Date. 8-24-09

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE Allen Culbreath Date 4/29/2011

ROUTE: - MILEPOINT: -

PATH: O:\SEA\69236\Planset\Tsht.dwg
Thu, 19/Jun/08 11:04AM dastevens
PLOT: FSPACE OR MSPACE TAB: TSHT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

STATE OF ALASKA 49TH James J. Petropulos PE-11377 REGISTERED PROFESSIONAL ENGINEER 6/19/08

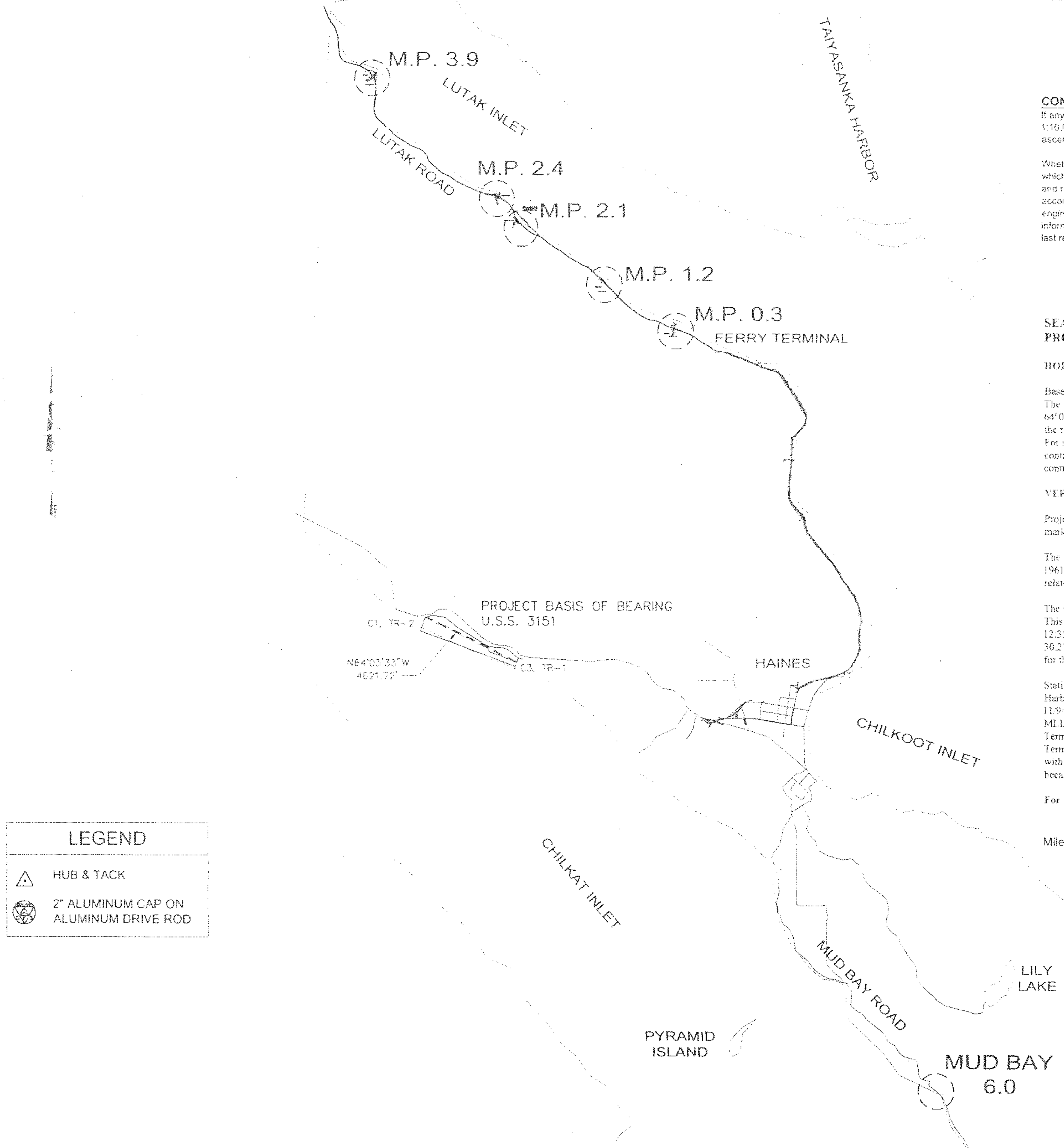
APPROVED: Victor Winters 6/20/08
REGIONAL PRE-CONSTRUCTION ENGINEER DATE
VICTOR WINTERS, P.E.

APPROVED: 6/20/08
DIRECTOR, SOUTHEAST REGION DATE
MALCOLM A. MENZIES, P.E., U.S.

CERTIFIED TRUE & CORRECT AS-BUILT OF ACTUAL FIELD CONDITION:

CONSTRUCTION PROJECT MANAGER DATE

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	69236 / ER-0079(2)	2008	A1	36



CONTROL NOTE:

If any pair of control points disagrees from published value by more than 1:10,000 horizontally or vertically then a third network point must be tied to ascertain which point is in error or has been disturbed

Whether listed or not, all monuments or property markers or accessories which will be disturbed or buried shall be referenced prior to being disturbed and re-established in their original position and a record of monument form in accordance with A.S 34.65.040 shall be submitted to the construction engineer for review prior to recording. Coordinate values listed are for informational purposes and should be used to reset monuments only as a last resort.

SEA-Storm Repair
PROJECT #69236

HORIZONTAL CONTROL

Based entirely on Ferry Terminal to Union job, project #72170.
The basis of bearing on Union to Airport is the record bearing of N 64°03'33" W from the recovered monument for C3 Tract 1 USS 3151, to the recovered monument for C1 Tract 2 USS 3151
For spot improvements at each culvert replacement area, GPS pairs of control were set in relation to the site. See control diagram for isolated control points at each site.

VERTICAL CONTROL

Project elevations are based on an adjusted elevation for USC&GS bench mark #5 with a 5.61 published elevation of 27.60' above MLLW.

The predicted glacial rebound for the Haines area is 2.3 cm per year. 1961-1997 is 36.5 years at 2.3cm/yr, or a 2.75' rise in ground elevations related to sea level.

The predicted 1997 elevation of BM #5 is 30.35' above MLLW.
This predicted elevation was verified with a single tide shot on 10/31/97 at 12:35pm. The predicted high tide of 18.4' produced a tidal elevation of 30.27', only 0.08' different than the rebound adjusted elevation computed for the point.

Static GPS ties to NOS benchmarks 2434-A and 2434-B in Taiyasanka Harbor (series 9452434) were performed in 9/2001. Publication date 11/9/2000 holding "A" at 22.59' above MLLW and "B" at 26.48' above MLLW. These ties were used specifically for work at the Haines Ferry Terminal and indicate that the predicted rebound elevation used for Ferry Terminal to Union Street control file needs to be raised 0.36' to correspond with current tidal conditions. However this adjustment has not been made because the referenced project is still in design phase.

For this project, the adjusted elevation for BM #5 held at 30.35'

Milepoints listed on Lutak Road are from Ferry Terminal.

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LOCATION MAP
SURVEY DATA SHEET

STATE OF ALASKA 49TH
Timothy Reed
No. 10613
6-19-08

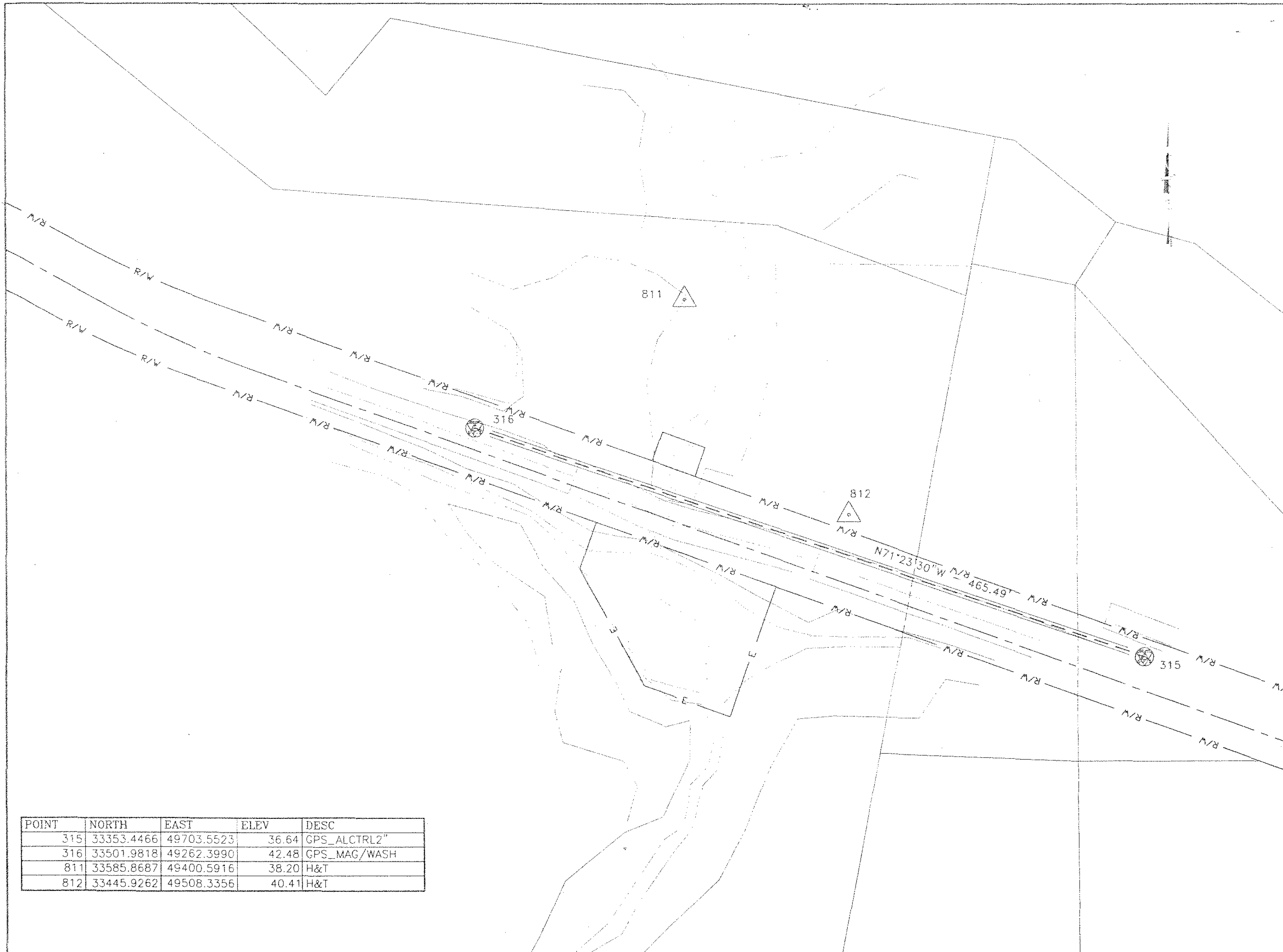
DESIGNED BY T. REED
DRAWN BY T. REED/D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LOCATION MAP
SURVEY DATA SHEET

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
A2	36



POINT	NORTH	EAST	ELEV	DESC
315	33353.4466	49703.5523	36.64	GPS_ALCTRL2"
316	33501.9818	49262.3990	42.48	GPS_MAG/WASH
811	33585.8687	49400.5916	38.20	H&T
812	33445.9262	49508.3356	40.41	H&T

PATH
PLOT
TAB TYPICALS

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK RD. 0.3 MILE SURVEY DATA SHEET

6-19-08

STATE OF ALASKA
49TH
Timothy Reed
No. 10613

DESIGNED BY T. REED
DRAWN BY T. REED/D. STEVENS

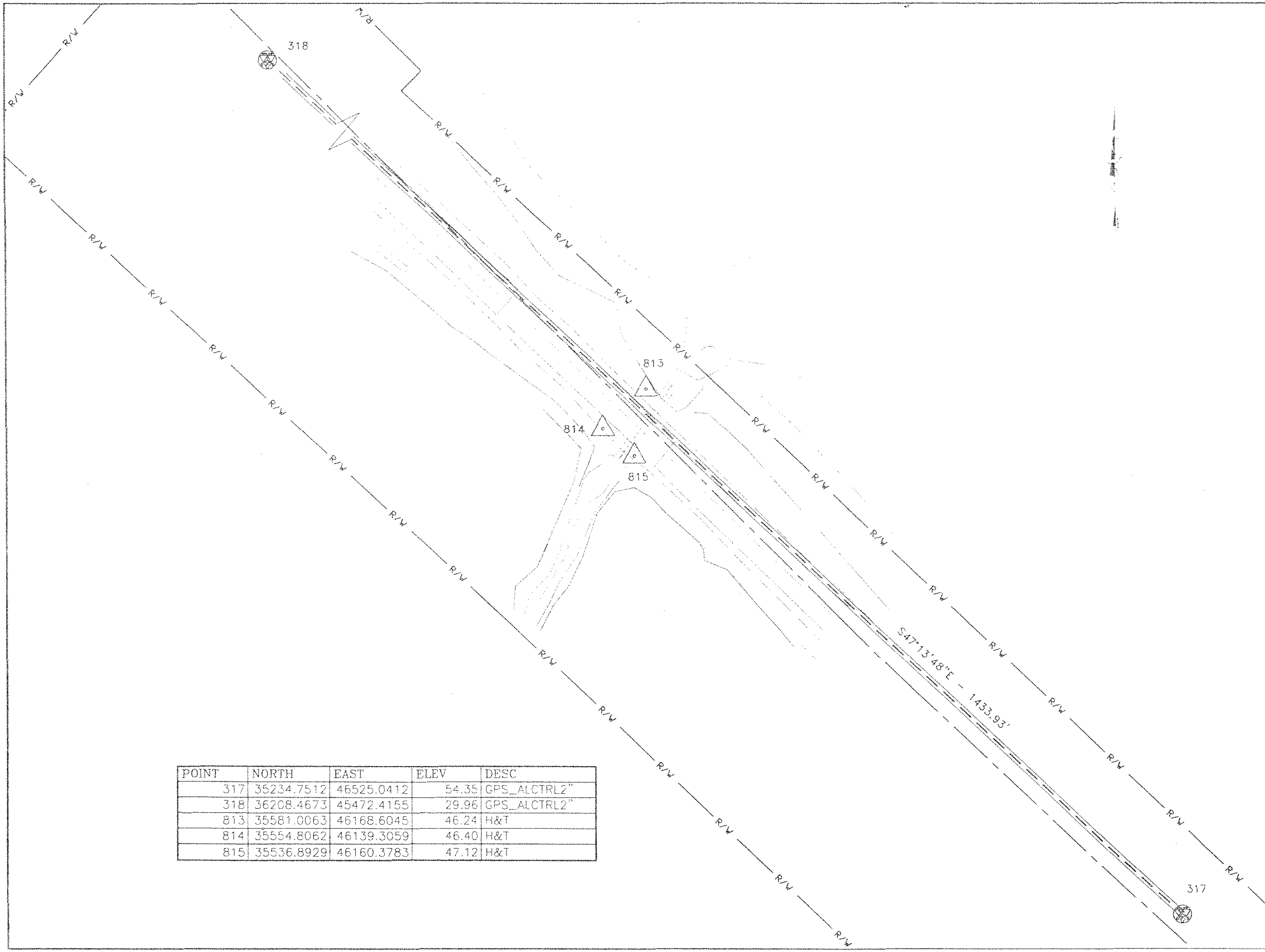
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK RD. 0.3 MILE
SURVEY DATA SHEET

PROJECT DESIGNATION NUMBER
69236 / ER-0079(2)

STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
A3	36



POINT	NORTH	EAST	ELEV	DESC
317	35234.7512	46525.0412	54.35	GPS_ALCTRL2"
318	36208.4673	45472.4155	29.96	GPS_ALCTRL2"
813	35581.0063	46168.6045	46.24	H&T
814	35554.8062	46139.3059	46.40	H&T
815	35536.8929	46160.3783	47.12	H&T

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK RD. 1.2 MILE
SURVEY DATA SHEET

6-19-08

STATE OF ALASKA 49TH Timothy Reed No. 10613

DESIGNED BY: T. REED

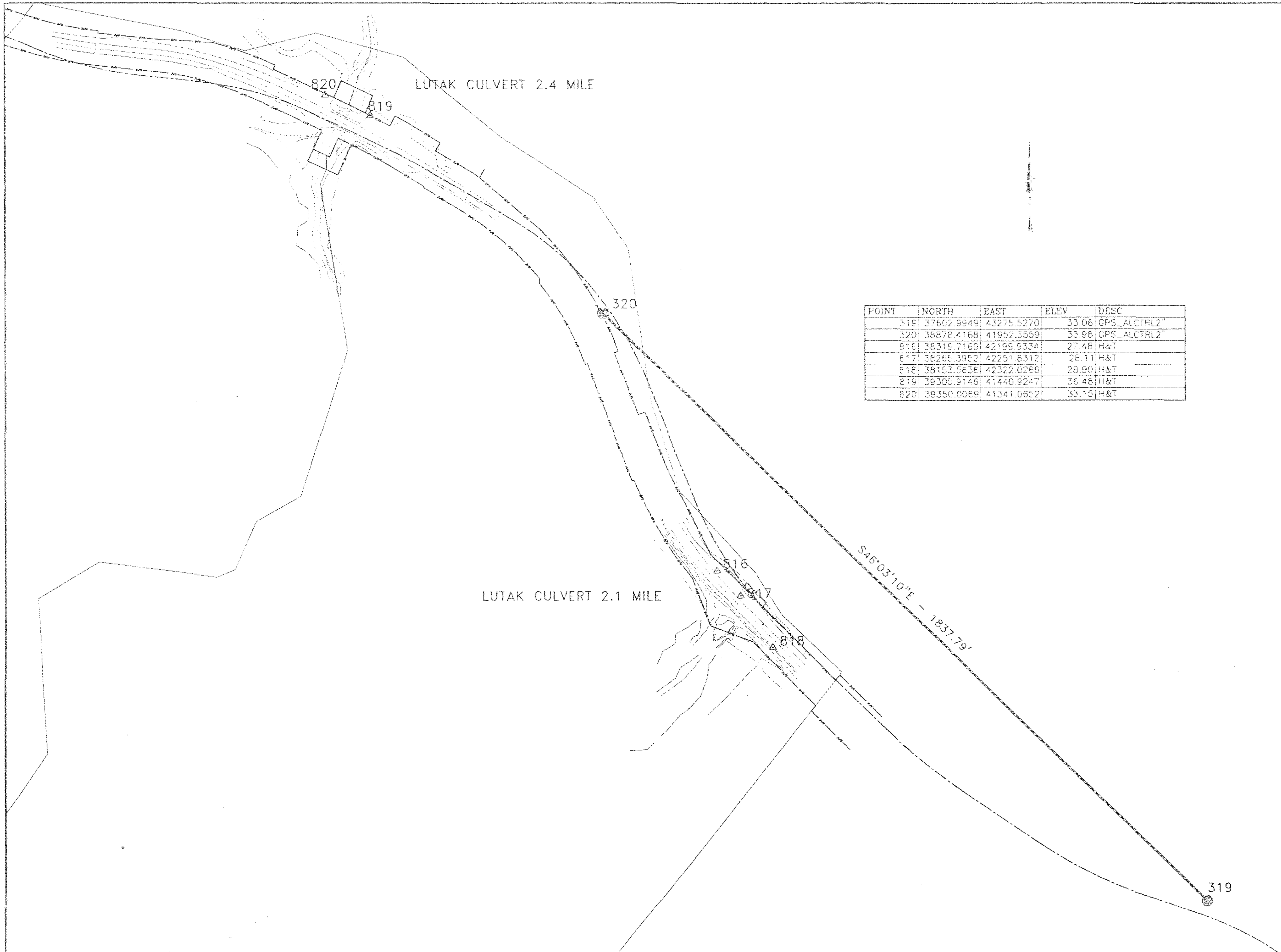
DRAWN BY: T. REED/C. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK RD. 1.2 MILE
SURVEY DATA SHEET

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
A4	36



POINT	NORTH	EAST	ELEV	DESC
319	37602.9949	43275.5270	33.06	GPS_ALCTRL2"
320	38878.4168	41952.3559	33.98	GPS_ALCTRL2"
816	38319.7169	42199.9334	27.48	H&T
817	38265.3952	42251.8312	28.11	H&T
818	38153.5636	42322.0266	28.90	H&T
819	39305.9146	41440.9247	36.48	H&T
820	39350.0069	41341.0652	33.15	H&T

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK RD. 2.1 MILE AND LUTAK RD. 2.4 MILE SURVEY DATA SHEET

STATE OF ALASKA
49TH
Timothy Reed
No. 10613

6-19-08

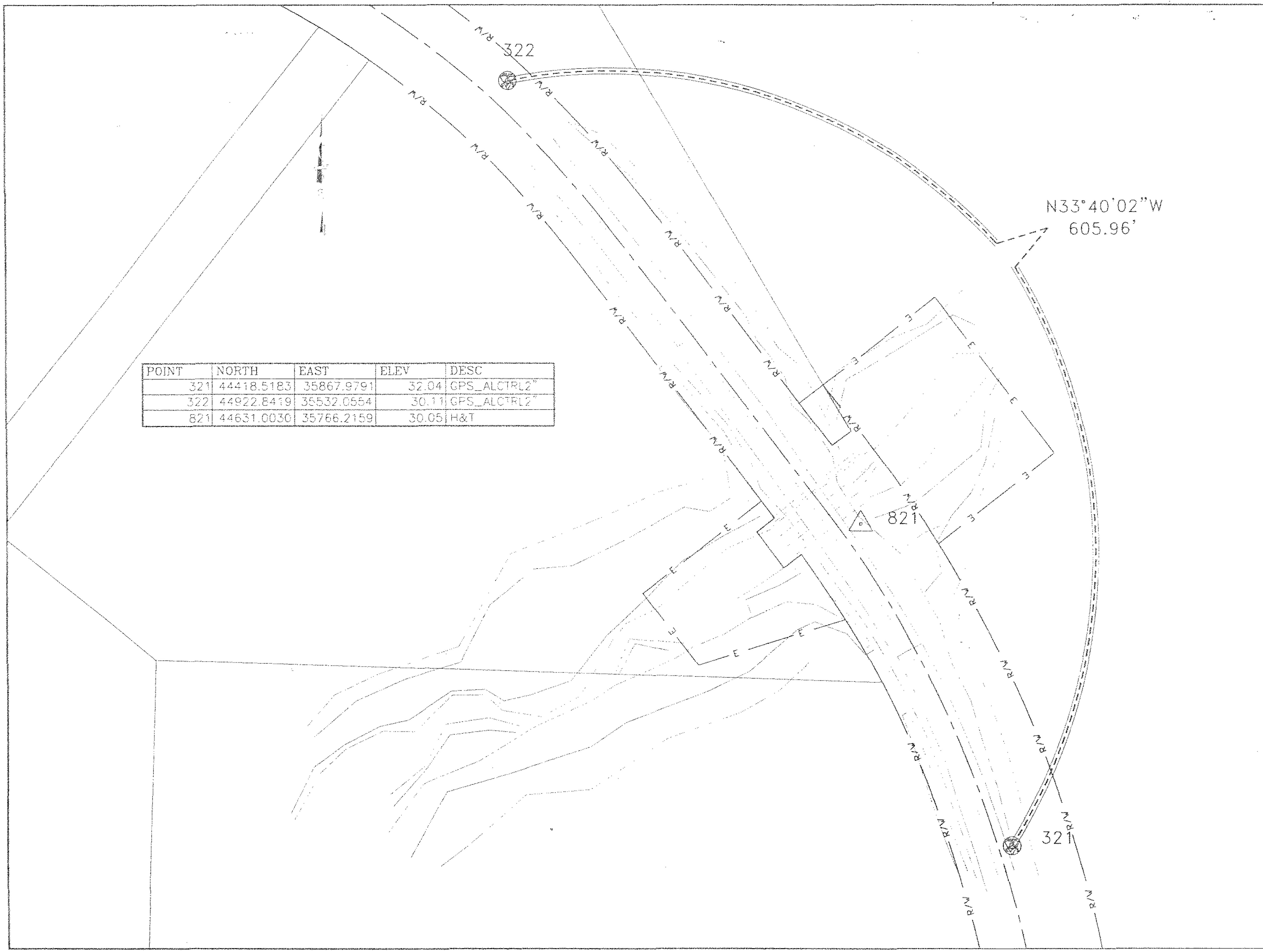
DESIGNED BY: T. REED
DRAWN BY: T. REED/C. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK RD. 2.1 MILE AND
LUTAK RD. 2.4 MILE
SURVEY DATA SHEET

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
A5	36



POINT	NORTH	EAST	ELEV	DESC
321	44418.5183	35867.9791	32.04	GPS_ALCTRL2"
322	44922.8419	35532.0554	30.11	GPS_ALCTRL2"
821	44631.0030	35766.2159	30.05	H&T

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK RD. 3.9 MILE
SURVEY DATA SHEET

STATE OF ALASKA 49TH
Timothy Reed
No. 10613
6-19-08

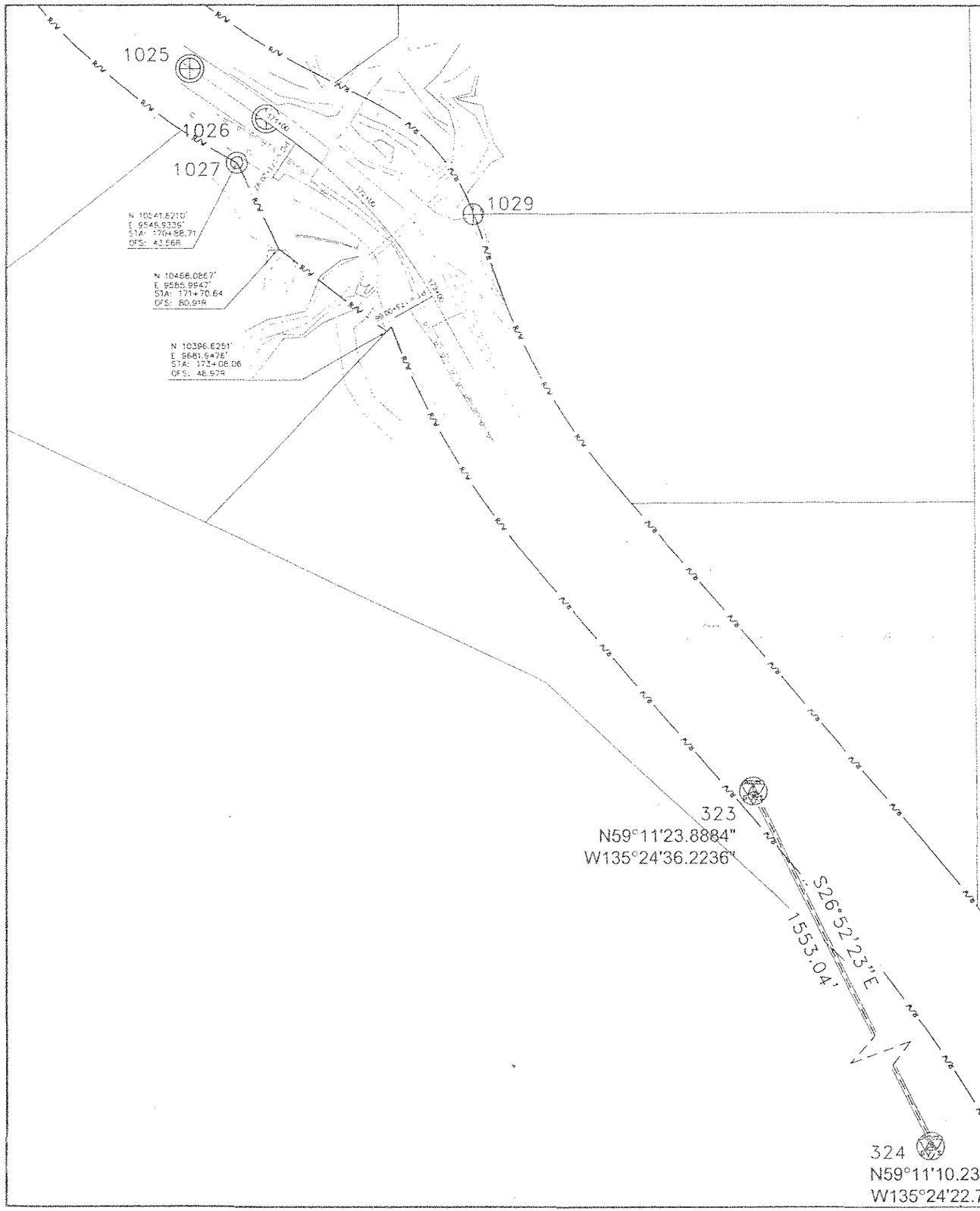
DESIGNED BY T. REED
DRAWN BY T. REED/D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK RD. 3.9 MILE
SURVEY DATA SHEET

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
A6	36



POINT	NORTH	EAST	ELEV	DESC
323	10000.0000	10000.0000	30.43	GPS_ALCTRL2"
324	8614.6747	10701.9947	29.61	GPS_ALCTRL2"
1025	10622.6471	9509.6525	94.28	CL_MON_DOH
1026	10579.7866	9575.1021	87.11	CL_MON_DOH
1027	10541.8693	9549.7066	79.69	ALSEC2"_TR-8/ROW
1029	10497.8041	9756.3129	76.89	BC3.5"_ADOL_L6_TR4/TR5

ALIGNMENT

	STA	North	East
Begin	170+50	10599.6930	9543.1340
Tangent	Length: 70.92	Course: S 55-04-37 E	
Circular Curve			
PC	171+20.92	10559.0936	9601.2820
PT	173+00.66	10427.0682	9721.0125
	Delta: 25-44-44	Type: RIGHT	
	Radius: 400.00	Length: 179.74	
Tangent	Length: 74.34	Course: S 29-19-53 E	
End	173+75	10362.2565	9757.4296

PATH:
DATE:
PLOT:
USER:

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

MUD BAY RD. 6.0 MILE SURVEY DATA SHEET

6-19-08

STATE OF ALASKA
49 TH
Timothy Reed
No. 10613
REGISTERED PROFESSIONAL ENGINEER

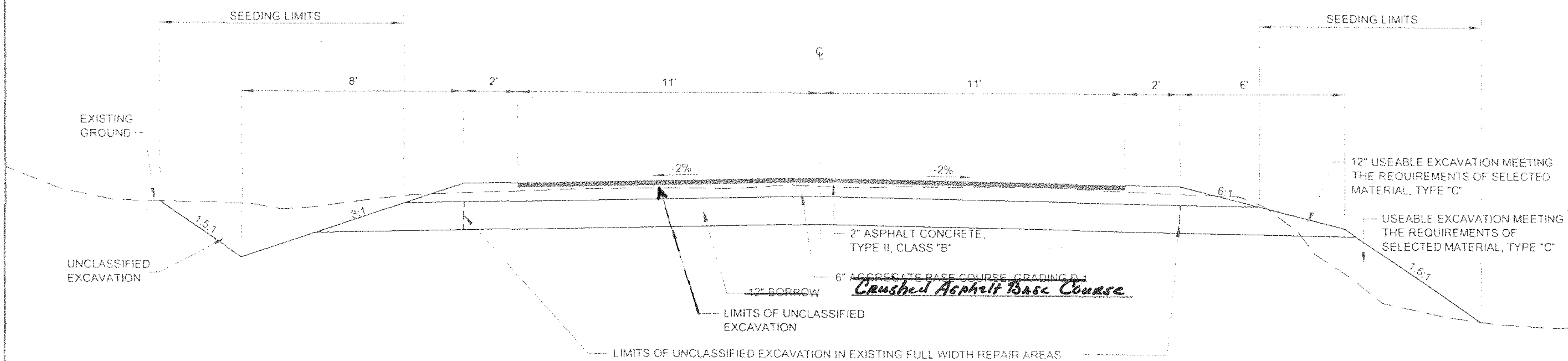
DESIGNED BY: T. REED
DRAWN BY: T. REED, D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

MUD BAY RD. 6.0 MILE
SURVEY DATA SHEET

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
A7	36



NOTE:

1. BORROW WILL MEET THE REQUIREMENTS OF SELECTED MATERIAL, TYPE "A". *Not Needed*

TYPICAL SECTION

LUTAK ROAD
STA. 271+70 TO STA. 272+05
STA. 311+00 TO STA. 311+40
STA. 358+85 TO STA. 359+50
STA. 372+80 TO STA. 373+65
STA. 458+30 TO STA. 458+80

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE *[signature]* Date *4-29-2011*

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

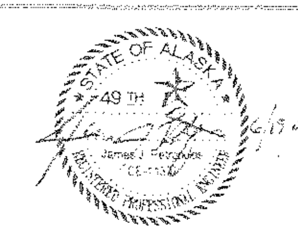
TYPICAL SECTIONS

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO. | DATE | DESCRIPTION

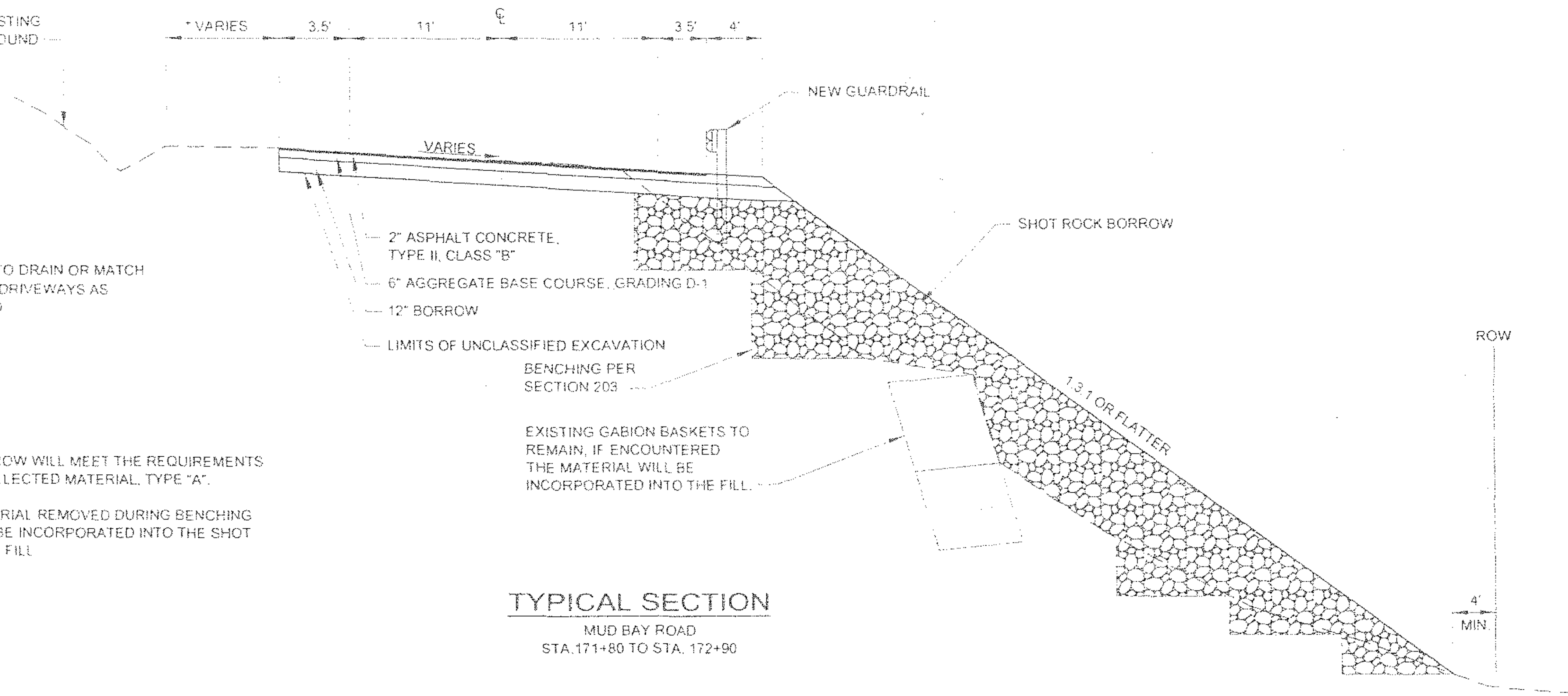


DESIGNED BY: J. PETROPULOS
DRAWN BY: E. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

TYPICAL SECTIONS

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
B1	36



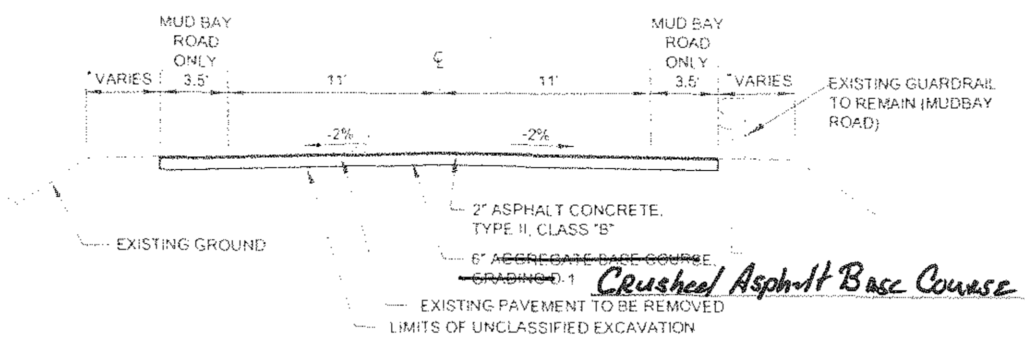
* GRADE TO DRAIN OR MATCH EXISTING DRIVEWAYS AS REQUIRED

NOTES:

1. BORROW WILL MEET THE REQUIREMENTS OF SELECTED MATERIAL, TYPE "A".
2. MATERIAL REMOVED DURING BENCHING MAY BE INCORPORATED INTO THE SHOT ROCK FILL

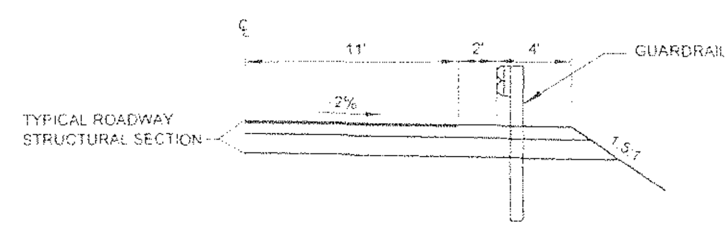
TYPICAL SECTION

MUD BAY ROAD
STA. 171+80 TO STA. 172+90



TYPICAL SECTION

LUTAK ROAD
STA. 270+80 TO STA. 271+70
STA. 272+05 TO STA. 273+35
STA. 310+00 TO STA. 311+00
STA. 311+40 TO STA. 313+00
STA. 357+60 TO STA. 358+85
STA. 359+50 TO STA. 360+25
STA. 369+80 TO STA. 372+80
STA. 373+65 TO STA. 379+00
STA. 457+00 TO STA. 458+30
STA. 458+80 TO STA. 460+50
MUD BAY ROAD
STA. 170+50 TO STA. 171+80
STA 172+90 TO STA. 173+75



LUTAK RD. GUARDRAIL TYPICAL

TYP. BOTH SIDES OF ROADWAY

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.

PE [signature] Date 4/29/2011

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

TYPICAL SECTIONS

APPENDIX NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA 49TH James J. Petropulos CE-11377 REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY J. PETROPULOS
DRAWN BY D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

TYPICAL SECTIONS

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
B2	36

ESTIMATE OF QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	PAY UNIT	QUANTITY		
			69236	67778	TOTAL
201 (6)	SELECTIVE TREE REMOVAL	EACH	9		9
202 (1)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED		ALL REQUIRED
202 (2)	REMOVAL OF PAVEMENT	SQUARE YARD	6030 6060.9	520	6550
202 (4)	REMOVAL OF CULVERT PIPE	LINEAR FOOT	699 718		699
203 (3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	2400 2098.8		2400
203 (6)	BORROW	TON	~~1200~~ N/A		1200
203 (9)	SHOT ROCK BORROW	CUBIC YARD	150 378.30		150
301 (1) C.O. #2	AGGREGATE BASE COURSE, GRADING D-1 Crushed Asphalt Base Course	TON	~~2900~~	64	2964
401 (1)	ASPHALT CONCRETE, TYPE II, CLASS B	TON	770 969.28	163	933
401 (2)	ASPHALT CEMENT, GRADE PG 58-28	TON	46 50.40	9	55
402(1)	STE-1 ASPHALT FOR TACK COAT	TON		0.2	0.2
501 (1)	CLASS A CONCRETE	LUMP SUM	ALL REQUIRED		ALL REQUIRED
503 (1)	REINFORCING STEEL	LUMP SUM	ALL REQUIRED		ALL REQUIRED
503 (2)	EPOXY-COATED REINFORCING STEEL	LUMP SUM	ALL REQUIRED		ALL REQUIRED
602 (1)	STRUCTURAL PLATE PIPE, 12'-0" DIA., 0.250" GAGE	LINEAR FOOT	152.5		152
603 (9-48)	48 INCH CORRUGATED ALUMINUM PIPE	LINEAR FOOT	180		180
603 (9-60)	60 INCH CORRUGATED ALUMINUM PIPE	LINEAR FOOT	132 131.4		132
603 (9-84)	84 INCH CORRUGATED ALUMINUM PIPE	LINEAR FOOT	96		96
603 (10)	57" x 38" CORRUGATED ALUMINUM PIPE ARCH	LINEAR FOOT	118 119		118
606 (1)	W-BEAM GUARDRAIL	LINEAR FOOT	500 406.5		500
606 (10)	SLOTTED RAIL TERMINAL (SRT-350)	EACH	2		1
606 (11)	EXTRUDER TERMINAL (ET-PLUS)	EACH	7		7
611 (1A)	RIPRAP, CLASS II	CUBIC YARD	230 307.1		230
611 (1B)	RIPRAP, CLASS III	CUBIC YARD	150 149.63		150
618 (1)	SEEDING	ACRE	0.5 2.40		0.5
630 (1)	GEOTEXTILE, SEPARATION	SQUARE YARD	560 200		560
633 (1)	SILT FENCE	LINEAR FOOT	2000 785		2000
640 (1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
640 (4)	WORKER MEALS AND LODGING, OR PER DIEM	LUMP SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
641 (1)	EROSION AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
641 (3)	TEMPORARY EROSION AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
641 (5)	PRELIMINARY SEEDING	ACRE	~~0.5~~		0.5
641 (6)	TEMPORARY ROCK CHECK DAM	EACH	18 10		18
641 (7)	EROSION AND POLLUTION CONTROL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED		ALL REQUIRED
642 (1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED		ALL REQUIRED
642 (3)	THREE PERSON SURVEY PARTY	HOUR	~~25~~		25
643 (2)	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
643 (3)	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
643 (15)-A	FLAGGING	CONTINGENT SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
643 (25)	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
667 (1)	PERMANENT TRAFFIC RECORDER, COMPLETE	LUMP SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
670 (1)	PAINTED TRAFFIC MARKINGS	LUMP SUM	ALL REQUIRED	ALL REQUIRED	ALL REQUIRED
662 (1)	ELECTRICAL CONDUIT	LUMP SUM	ALL REQUIRED		ALL REQUIRED

BASIS OF ESTIMATE

ITEM	PAY ITEM	ESTIMATING FACTOR
203(5)	BORROW, SELECTED MATERIAL, TYPE A & C	2.2 TON/CY
301(1)	AGGREGATE BASE COURSE, GRADING D-1	2.2 TON/CY
401(1)	ASPHALT CONCRETE, TYPE II, CLASS B	125 LB/SY/IN
401(2)	ASPHALT CEMENT, GRADE PG 58-28	6.0% OF ITEM 401 (1)
402(1)	STE-1 ASPHALT FOR TACK COAT	0.1 GAL./ S.Y., 253 GAL./TON

GENERAL NOTES

1. VERTICAL AND HORIZONTAL ALIGNMENTS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS. SEE SECTION 203 OF THE SPECIFICATIONS.
2. THE SUPERELEVATION SHALL BE ROTATED ABOUT THE ROADWAY CENTERLINE. THE RATE OF SUPERELEVATION AND OTHER SUPERELEVATION DETAILS ARE SHOWN ON THE PLAN AND PROFILE SHEETS.

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.

PE [signature] Date 4/29/2011

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

Estimate of Quantities

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA
49TH
James G. Petropulos
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: J. PETROPULOS
DRAWN BY: C. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

Estimate of Quantities

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
C1	36

CULVERT SUMMARY

WORK AREA	STATION	SIZE 48"	60"	84"	OTHER	RIPRAP (C.Y.) CLASS II	CLASS III	CONCRETE HEADWALL	COMMENTS
LUTAK RD. 0.3 MILE	271+87	60							
LUTAK RD. 0.3 MILE	271+93	60						1	STEP BEVEL INLET END OF PIPES AND CONSTRUCT SLOPED CONCRETE HEADWALL PER THE DETAILS ON SHEET H8.
LUTAK RD. 0.3 MILE	271+99	60							
LUTAK RD. 1.2 MILE	311+19		66			85		1	STEP BEVEL INLET END OF PIPES AND CONSTRUCT SLOPED CONCRETE HEADWALL PER THE DETAILS ON SHEET H8. PLACE CLASS II RIPRAP AT OUTLET.
LUTAK RD. 1.2 MILE	311+26		66						
LUTAK RD. 2.1 MILE	358+93				60	23		1	57"x38" ALUMINUM PIPE ARCH. STEP BEVEL INLET END OF PIPE AND CONSTRUCT SLOPED CONCRETE HEADWALL PER THE DETAILS ON SHEET H8. PLACE CLASS II RIPRAP AT OUTLET.
LUTAK RD. 2.1 MILE	359+34				58	17		1	57"x38" ALUMINUM PIPE ARCH. STEP BEVEL INLET END OF PIPE AND CONSTRUCT SLOPED CONCRETE HEADWALL PER THE DETAILS ON SHEET H8. PLACE CLASS II RIPRAP AT OUTLET.
LUTAK RD. 2.4 MILE	373+35				78	60		2	12'-0" ALUMINUM STRUCTURAL PLATE PIPE W/REINFORCING RIBS. SEE SECTION 602 OF THE SPECIFICATIONS. STEP BEVEL ENDS OF PIPE AND CONSTRUCT CONCRETE STEM WALLS AND SLOPE COLLARS PER THE DETAILS ON SHEET H7.
LUTAK RD. 3.9 MILE	458+49				74.5	45		2	12'-0" ALUMINUM STRUCTURAL PLATE PIPE W/REINFORCING RIBS. SEE SECTION 602 OF THE SPECIFICATIONS. STEP BEVEL ENDS OF PIPE AND CONSTRUCT CONCRETE STEM WALLS AND SLOPE COLLARS PER THE DETAILS ON SHEET H7.
MUD BAY RD. 6.0 MILE	172+40			96			150	2	STEP BEVEL ENDS OF PIPE AND CONSTRUCT SLOPED CONCRETE HEADWALLS PER THE DETAILS ON SHEET H8. PLACE CLASS III RIPRAP AT OUTLET.
TOTALS		180	~~132~~ 181.4	96	270	230	150	10	

CULVERT REMOVAL SUMMARY

WORK AREA	STATION	LENGTH (FT.)	COMMENTS
LUTAK RD. 0.3 MILE	271+84	36	DEADMAN ANCHOR(S) MAY BE ENCOUNTERED
LUTAK RD. 0.3 MILE	271+93	40	DEADMAN ANCHOR(S) MAY BE ENCOUNTERED
LUTAK RD. 1.2 MILE	311+21	80	
LUTAK RD. 1.2 MILE	311+25	80	
LUTAK RD. 2.1 MILE	359+34	54	
LUTAK RD. 2.4 MILE	373+20	59	DEADMAN ANCHOR(S) MAY BE ENCOUNTERED
LUTAK RD. 2.4 MILE	373+38	55	DEADMAN ANCHOR(S) MAY BE ENCOUNTERED
LUTAK RD. 3.9 MILE	458+47	60	REMOVE AND DISPOSE OF TYPE I HEADWALL AT INLET END OF PIPES. DEADMAN ANCHORS MAY BE ENCOUNTED AT OUTLETS.
LUTAK RD. 3.9 MILE	458+64	80	
LUTAK RD. 3.9 MILE	458+71	74	
MUD BAY RD. 6.0 MILE	172+40	81	
TOTALS		699	

GUARDRAIL INSTALLATION SUMMARY

WORK AREA	STATION TO STATION	OFFSET LT.	OFFSET RT.	W-BEAM LENGTH (L.F.)	END SECTIONS REQ'D	COMMENTS
LUTAK RD. - 2.4 MILE	371+96 TO 373+68	X		~~100~~ 24.5	2	SEE STANDARD DRAWING G-28.00, LONG SPAN W-BEAM GUARDRAIL, CASE "A", FOR INSTALLATION OF GUARDRAIL OVER THIS CULVERT. AN SRT-350 END SECTION SHALL BE INSTALLED AT STA. 373+67, 31' LT. ALL OTHER END SECTIONS SHALL BE ET-PLUS. CONTRACTOR MUST PROVIDE EMBANKMENT AS SHOWN IN STANDARD DRAWING G-20.10 FOR ET-PLUS.
LUTAK RD. - 2.4 MILE	372+55 TO 374+04		X	~~75~~ 44'	2	
LUTAK RD. - 3.9 MILE	457+73 TO 459+23	X	X	150	4	SEE STANDARD DRAWING G-28.00, LONG SPAN W-BEAM GUARDRAIL, CASE "A", FOR INSTALLATION OF GUARDRAIL OVER THIS CULVERT. CONTRACTOR MUST PROVIDE EMBANKMENT AS SHOWN IN STANDARD DRAWING G-20.10 FOR ET-PLUS.
MUD BAY RD. - 6.0 MILE	171+50 TO 173+25 173+38		X	~~175~~ 188	0	REMOVE AND DISPOSE OF DAMAGED POSTS AND RAIL ELEMENTS, AND INSTALL NEW W-BEAM GUARDRAIL AFTER NEW EMBANKMENT IS PLACED. CONNECT TO EXISTING ON BOTH ENDS.
TOTAL				~~500~~ 406.5	8	

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

WORK AREA	STATION	OFFSET LT.	OFFSET RT.	DESCRIPTION	COMMENTS
LUTAK RD.2.4 MILE	373+40		X	DAMAGED CULVERT PIPE	CLEANUP OF EXISTING STORM DEBRIS
LUTAK RD. 3.9 MILE	458+40 TO 458+71	X		TYPE 1 CONCRETE HEADWALL AT CULVERT PIPES INLETS	
MUD BAY RD. 6.0 MILE	172+00		X	DAMAGED CULVERT PIPE AND GUARDRAIL ELEMENTS	CLEANUP OF EXISTING STORM DEBRIS

ADDENDUM NUMBER
ATTACHMENT NUMBER
RECORD OF REVISIONS
NO. DATE DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

Summary Tables

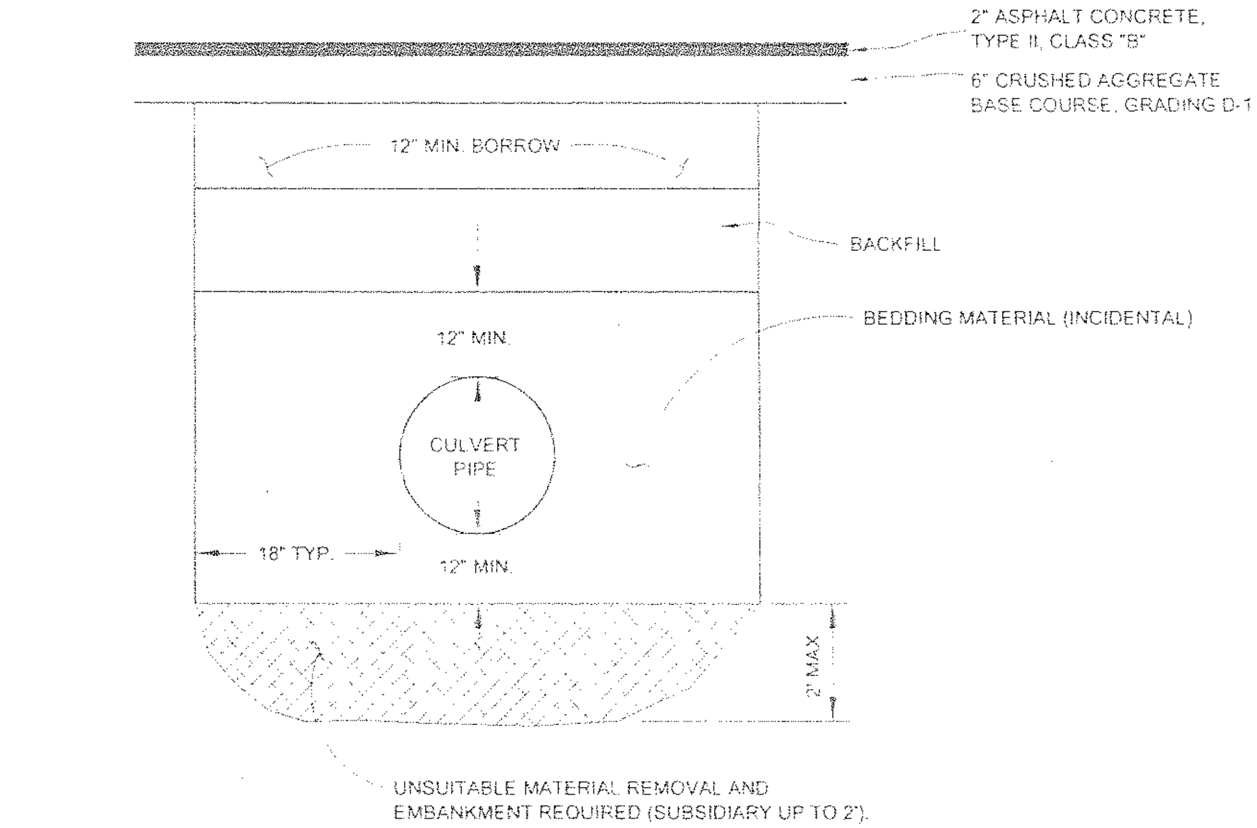
Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE [signature] Date [illegible]

STATE OF ALASKA 49TH Jarred J. Petropulos CE-11397 REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY J. PETROPULOS
DRAWN BY D. STEVENS
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES SOUTHEAST REGION
SEA NOVEMBER 2005 STORM PERMANENT REPAIRS

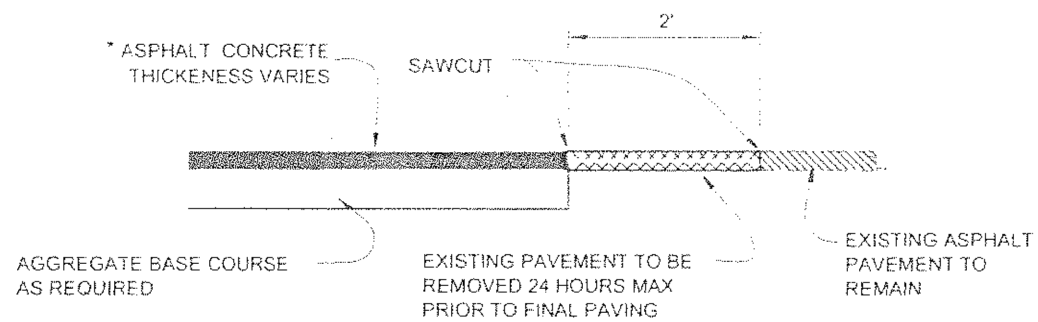
Summary Tables

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
D1	36



TYPICAL PIPE TRENCHING & BEDDING DETAIL

NTS



PAVEMENT MATCH JOINT DETAIL

* HAINES HIGHWAY - 5" ±
LUTAK RD. & MUDBAY RD. - 2"

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

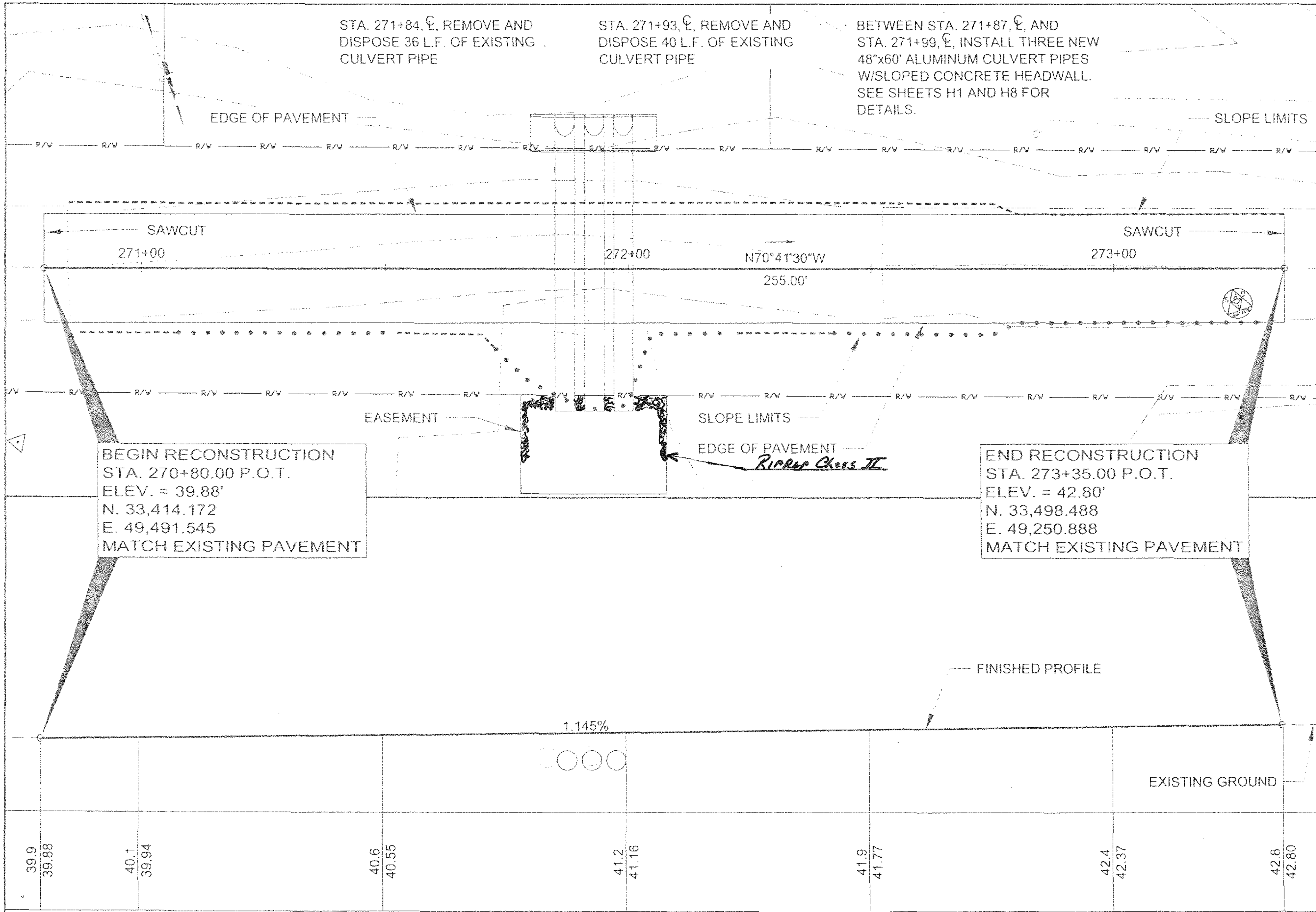
MISCELLANEOUS DETAILS

DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

MISCELLANEOUS DETAILS

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
E1	36


STA. 271+84, ℄, REMOVE AND DISPOSE 36 L.F. OF EXISTING CULVERT PIPE
STA. 271+93, ℄, REMOVE AND DISPOSE 40 L.F. OF EXISTING CULVERT PIPE
BETWEEN STA. 271+87, ℄, AND STA. 271+99, ℄, INSTALL THREE NEW 48"x60' ALUMINUM CULVERT PIPES W/SLOPED CONCRETE HEADWALL. SEE SHEETS H1 AND H8 FOR DETAILS.
EDGE OF PAVEMENT
SLOPE LIMITS
R/W
SAWCUT
271+00
272+00
N70°41'30"W
255.00'
273+00
SAWCUT
EASEMENT
SLOPE LIMITS
EDGE OF PAVEMENT
Riprap Class II
BEGIN RECONSTRUCTION
STA. 270+80.00 P.O.T.
ELEV. = 39.88'
N. 33,414.172
E. 49,491.545
MATCH EXISTING PAVEMENT
END RECONSTRUCTION
STA. 273+35.00 P.O.T.
ELEV. = 42.80'
N. 33,498.488
E. 49,250.888
MATCH EXISTING PAVEMENT
FINISHED PROFILE
1.145%
EXISTING GROUND
39.9
39.88
40.1
39.94
40.6
40.55
41.2
41.16
41.9
41.77
42.4
42.37
42.8
42.80
271+00
272+00
273+00

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE [signature] Date 4/29/2011

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK ROAD 0.3 MILE
PLAN AND PROFILE

DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK ROAD 0.3 MILE
PLAN AND PROFILE

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
F1	36

STA. 311+21, ℄, REMOVE AND DISPOSE 80 L.F. OF EXISTING CULVERT PIPE

STA. 311+25, ℄, REMOVE AND DISPOSE 80L.F. OF EXISTING CULVERT PIPE

APPROX. LOCATION OF BURIED POWER AND FIBEROPTIC CABLES AT AN EST. DEPTH OF 3'. FIELD VERIFY BEFORE BEGINNING WORK. SEE SPECIFICATIONS.

EDGE OF PAVEMENT

SLOPE LIMITS

SAWCUT

SAWCUT

310+00

311+00

N46°25'12"W
300.00'

312+00

313+00

SLOPE LIMITS

EDGE OF PAVEMENT

Rip Rap Class II

BEGIN RECONSTRUCTION
STA. 310+00.00 P.O.T.
ELEV. = 50.70'
N. 35,468.957
E. 46,253.176
MATCH EXISTING PAVEMENT

STA. 311+19, ℄, AND STA. 311+26.5, ℄, INSTALL NEW 60"x66' ALUMINUM CULVERT PIPES W/SLOPED CONCRETE HEADWALL. SEE SHEETS H2 AND H8 FOR DETAILS.

END RECONSTRUCTION
STA. 313+00.00 P.O.T.
ELEV. = 42.00'
N. 35,675.766
E. 46,035.852
MATCH EXISTING PAVEMENT

VPI STA = 310+50
VPI ELEV = 49.82
A.D. = -1.38
K = 72.67

100' VC

VPC: 310+00
ELEV: 50.70

VPT: 311+00
ELEV: 48.26

EXISTING GROUND

-1.76%

FINISHED PROFILE

-3.13%

51.6							
51.5	50.7	49.7	48.3	46.8	45.1	43.5	42.0
	50.70	49.65	48.26	46.69	45.13	43.56	42.00
	310+00		311+00		312+00		313+00

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.

PE _____ Date 4-29-2011

ADDENDUM NUMBER

ATTACHMENT NUMBER

ISSUE OR RELEASE

NO.	DATE	DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK ROAD 1.2 MILE
PLAN AND PROFILE

STATE OF ALASKA 49TH

DESIGNED BY J. PETROFILES
DRAWN BY D. STEVENS

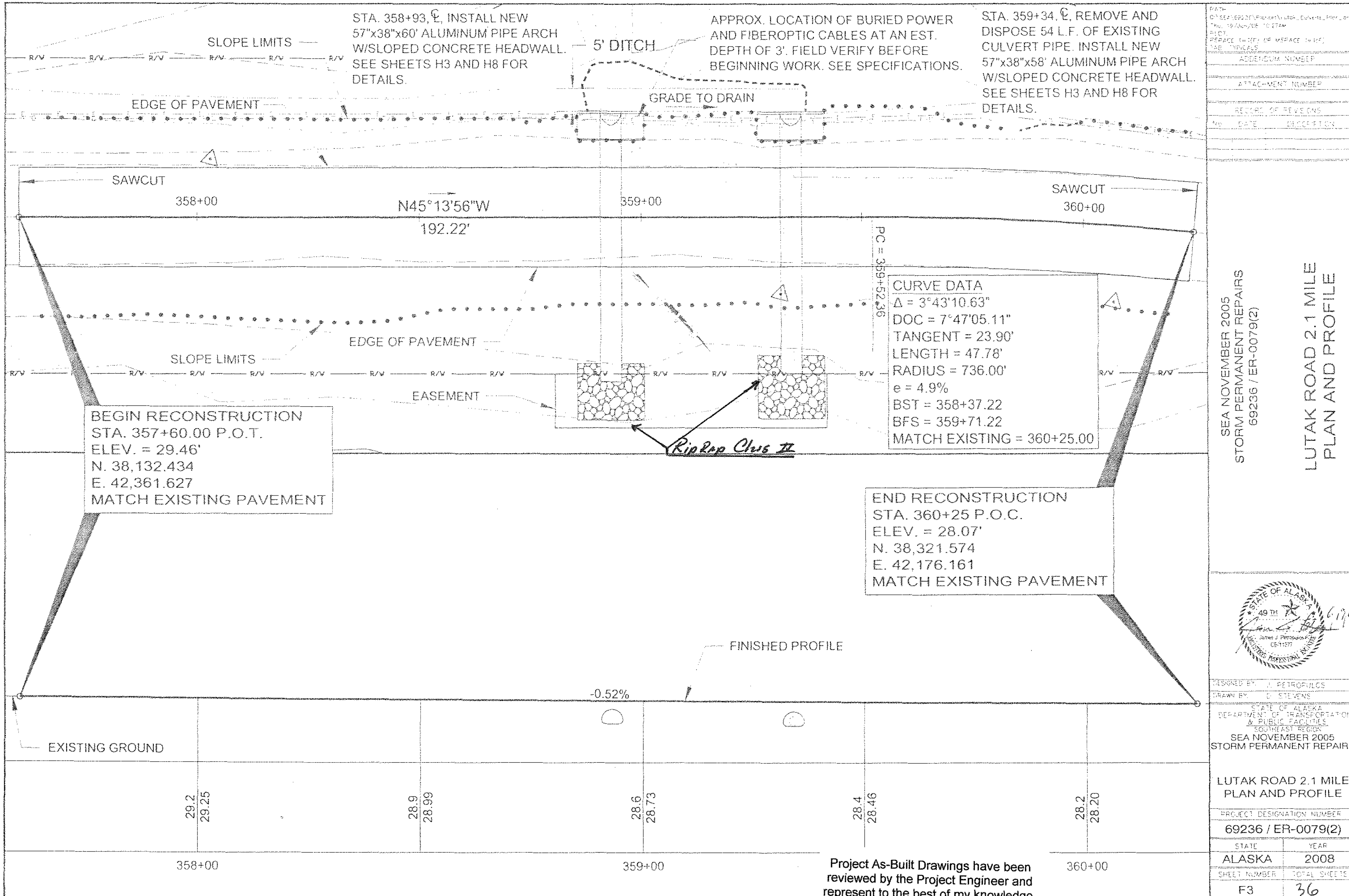
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK ROAD 1.2 MILE
PLAN AND PROFILE

PROJECT DESIGNATION NUMBER
69236 / ER-0079(2)

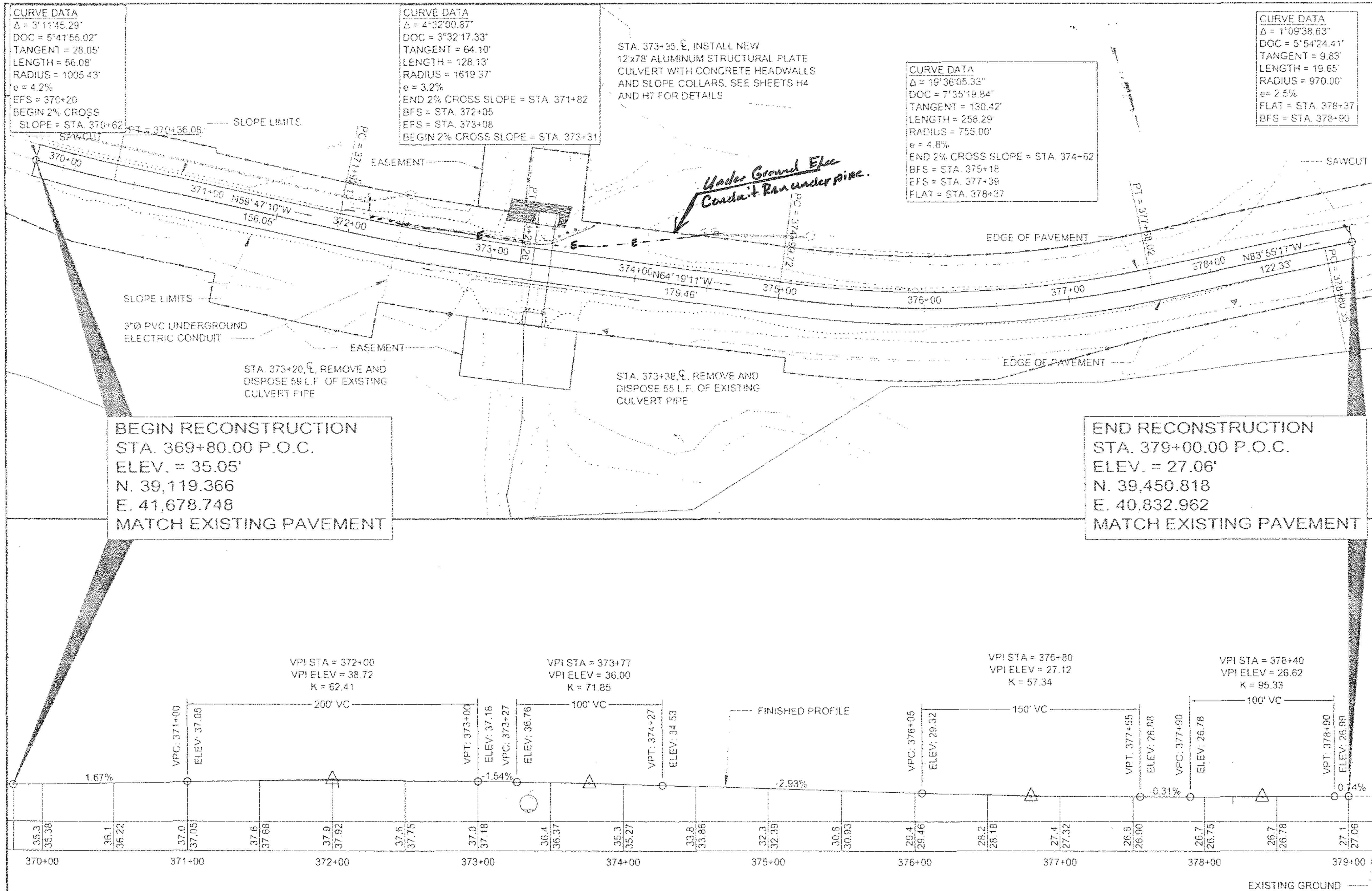
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
F2	36



STA. 358+93, ℄, INSTALL NEW 57"x38"x60' ALUMINUM PIPE ARCH W/SLOPED CONCRETE HEADWALL. SEE SHEETS H3 AND H8 FOR DETAILS.
5' DITCH
APPROX. LOCATION OF BURIED POWER AND FIBEROPTIC CABLES AT AN EST. DEPTH OF 3'. FIELD VERIFY BEFORE BEGINNING WORK. SEE SPECIFICATIONS.
STA. 359+34, ℄, REMOVE AND DISPOSE 54 L.F. OF EXISTING CULVERT PIPE. INSTALL NEW 57"x38"x58' ALUMINUM PIPE ARCH W/SLOPED CONCRETE HEADWALL. SEE SHEETS H3 AND H8 FOR DETAILS.
SLOPE LIMITS
R/W
EDGE OF PAVEMENT
GRADE TO DRAIN
SAWCUT
358+00
N45°13'56"W
192.22'
359+00
PC = 359+52.36
SAWCUT
360+00
CURVE DATA
Δ = 3°43'10.63"
DOC = 7°47'05.11"
TANGENT = 23.90'
LENGTH = 47.78'
RADIUS = 736.00'
e = 4.9%
BST = 358+37.22
BFS = 359+71.22
MATCH EXISTING = 360+25.00
EDGE OF PAVEMENT
SLOPE LIMITS
EASEMENT
Rip Rap Class II
BEGIN RECONSTRUCTION
STA. 357+60.00 P.O.T.
ELEV. = 29.46'
N. 38,132.434
E. 42,361.627
MATCH EXISTING PAVEMENT
END RECONSTRUCTION
STA. 360+25 P.O.C.
ELEV. = 28.07'
N. 38,321.574
E. 42,176.161
MATCH EXISTING PAVEMENT
FINISHED PROFILE
-0.52%
EXISTING GROUND
29.2
29.25
28.9
28.99
28.6
28.73
28.4
28.46
28.2
28.20
358+00
359+00
360+00
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)
LUTAK ROAD 2.1 MILE
PLAN AND PROFILE
ADDENDUM NUMBER
ATTACHMENT NUMBER
RECORD OF REVISIONS
NO. DATE DESCRIPTION
STATE OF ALASKA
49TH
REGISTERED PROFESSIONAL ENGINEER
DESIGNED BY J. PETROPULOS
DRAWN BY D. STEVENS
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
LUTAK ROAD 2.1 MILE
PLAN AND PROFILE
PROJECT DESIGNATION NUMBER
69236 / ER-0079(2)
STATE
YEAR
ALASKA
2008
SHEET NUMBER
TOTAL SHEETS
F3
36

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.

PE ____ Date 4/29/2011



CURVE DATA
Δ = 3°11'45.29"
DOC = 5°41'55.02"
TANGENT = 28.05'
LENGTH = 56.08'
RADIUS = 1005.43'
e = 4.2%
EFS = 370+20
BEGIN 2% CROSS SLOPE = STA. 370+62
CURVE DATA
Δ = 4°32'00.87"
DOC = 3°32'17.33"
TANGENT = 64.10'
LENGTH = 128.13'
RADIUS = 1619.37'
e = 3.2%
END 2% CROSS SLOPE = STA. 371+82
BFS = STA. 372+05
EFS = STA. 373+08
BEGIN 2% CROSS SLOPE = STA. 373+31
STA. 373+35, ℄, INSTALL NEW 12'x78' ALUMINUM STRUCTURAL PLATE CULVERT WITH CONCRETE HEADWALLS AND SLOPE COLLARS. SEE SHEETS H4 AND H7 FOR DETAILS
CURVE DATA
Δ = 19°36'05.33"
DOC = 7°35'19.84"
TANGENT = 130.42'
LENGTH = 258.29'
RADIUS = 755.00'
e = 4.8%
END 2% CROSS SLOPE = STA. 374+62
BFS = STA. 375+18
EFS = STA. 377+39
FLAT = STA. 378+37
CURVE DATA
Δ = 1°09'38.63"
DOC = 5°54'24.41"
TANGENT = 9.83'
LENGTH = 19.65'
RADIUS = 970.00'
e= 2.5%
FLAT = STA. 378+37
BFS = STA. 378+90
SAWCUT
PT = 370+36.08
SLOPE LIMITS
EASEMENT
Under Ground Elec Conduit Ran under pipe.
370+00
371+00
N59°47'10"W
156.05'
372+00
373+00
374+00
N64°19'11"W
179.46'
375+00
376+00
377+00
378+00
N83°55'17"W
122.33'
EDGE OF PAVEMENT
SAWCUT
SLOPE LIMITS
3"Ø PVC UNDERGROUND ELECTRIC CONDUIT
EASEMENT
EDGE OF PAVEMENT
STA. 373+20,℄, REMOVE AND DISPOSE 59 L.F. OF EXISTING CULVERT PIPE
STA. 373+38,℄, REMOVE AND DISPOSE 55 L.F. OF EXISTING CULVERT PIPE
BEGIN RECONSTRUCTION
STA. 369+80.00 P.O.C.
ELEV. = 35.05'
N. 39,119.366
E. 41,678.748
MATCH EXISTING PAVEMENT
END RECONSTRUCTION
STA. 379+00.00 P.O.C.
ELEV. = 27.06'
N. 39,450.818
E. 40.832.962
MATCH EXISTING PAVEMENT
VPI STA = 372+00
VPI ELEV = 38.72
K = 62.41
200' VC
VPI STA = 373+77
VPI ELEV = 36.00
K = 71.85
100' VC
FINISHED PROFILE
VPI STA = 376+80
VPI ELEV = 27.12
K = 57.34
150' VC
VPI STA = 378+40
VPI ELEV = 26.62
K = 95.33
100' VC
VPC: 371+00 ELEV: 37.05
VPT: 373+00 ELEV: 37.18
VPC: 373+27 ELEV: 36.76
VPT: 374+27 ELEV: 34.53
VPC: 376+05 ELEV: 29.32
VPT: 377+55 ELEV: 26.88
VPC: 377+90 ELEV: 26.78
VPT: 378+90 ELEV: 26.99
1.67%
-1.54%
-2.93%
-0.31%
0.74%
35.3 35.38
36.1 36.22
37.0 37.05
37.6 37.68
37.9 37.92
37.6 37.75
37.0 37.18
36.4 36.37
35.3 35.27
33.8 33.86
32.3 32.39
30.8 30.93
29.4 29.46
28.2 28.18
27.4 27.32
26.8 26.90
26.7 26.75
26.7 26.78
27.1 27.06
370+00
371+00
372+00
373+00
374+00
375+00
376+00
377+00
378+00
379+00
EXISTING GROUND

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.

PE ________ Date 4-29-2011

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK ROAD 2.4 MILE
PLAN AND PROFILE

STATE OF ALASKA, 49TH, James J. Petropulos, CE-4377 — 6/4/08

DESIGNED BY: J. PETROPULOS
DRAWN BY: E. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK ROAD 2.4 MILE
PLAN AND PROFILE

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
F4	36

CURVE DATA
Δ = 10°31'55.44"
DOC = 8°59'49.55"
TANGENT = 58.70'
LENGTH = 117.06'
RADIUS = 636.83'
e = 5.2%
EFS = STA. 457+97
BEGIN 2% CROSS SLOPE = STA. 458+59

EASEMENT

STA. 458+47, ℄, REMOVE AND DISPOSE 60 L.F. OF EXISTING CULVERT PIPE AND HEADWALL

STA. 458+64, ℄, REMOVE AND DISPOSE 80 L.F. OF EXISTING CULVERT PIPE AND HEADWALL

STA. 458+71, ℄, REMOVE AND DISPOSE 74 L.F. OF EXISTING CULVERT PIPE

Underground Electric

CURVE DATA
Δ = 2°13'14.61"
DOC = 1°39'39.34"
TANGENT = 66.86'
LENGTH = 133.70'
RADIUS = 3449.62'
e = 2.0%
CONTINUE 2% CROSS SLOPE FROM STA. 458+59
BFS = STA. 459+10
EFS = STA. 460+28
MATCH EXISTING AT STA. 460+50

SLOPE LIMITS

PT = 458+13.06

PC = 459+11.94

PT = 460+35.64

EDGE OF PAVEMENT

SAWCUT

457+00

458+00

459+00

460+00

N35°36'52"W
84.87'

N37°50'07"W
14.36'

SAWCUT

EDGE OF PAVEMENT

SLOPE LIMITS

EASEMENT

STA. 458+49, ℄, INSTALL NEW 12'x74' ALUMINUM STRUCTURAL PLATE PIPE WITH CONCRETE HEADWALLS AND SLOPE COLLARS SEE SHEETS H5 AND H7 FOR DETAILS.

BEGIN RECONSTRUCTION
STA. 457+00.00 P.O.C.
ELEV. = 31.20'
N. 44,505.244
E. 35.819.733
MATCH EXISTING PAVEMENT

END RECONSTRUCTION
STA. 460+50.00 P.O.T.
ELEV. = 29.80'
N. 44,793.621
E. 35,622.490
MATCH EXISTING PAVEMENT

FINISHED PROFILE

-0.40%

EXISTING GROUND

457+00	458+00	459+00	460+00
31.2 / 31.20	30.9 / 31.00	30.7 / 30.80	30.3 / 30.60
30.1 / 30.40	30.0 / 30.20	29.7 / 30.00	29.8 / 29.80

ADDENDUM NUMBER

ATTACHMENT NUMBER

REVISED OR ADDENDUM

NO. DATE BY DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK ROAD 3.9 MILE
PLAN AND PROFILE

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.
PE Date 4-25-2011

STATE OF ALASKA
49TH
James J. Petropulos
CE-11277
REGISTERED PROFESSIONAL ENGINEER
6/19/08

DESIGNED BY J. PETROPULOS
DRAWN BY S. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK ROAD 3.9 MILE
PLAN AND PROFILE

PROJECT DESIGNATION NUMBER
69236 / ER-0079(2)

STATE	YEAR
ALASKA	2008

SHEET NUMBER	TOTAL SHEETS
F5	36

STA. 172+40 ℄ REMOVE AND DISPOSE 81 L.F. OF EXISTING CULVERT PIPE. INSTALL NEW 84"x96' ALUMINUM CULVERT PIPE WITH SLOPED CONCRETE HEADWALLS. SEE SHEETS H6 AND H8 FOR DETAILS.

EDGE OF PAVEMENT

SLOPE LIMITS

SAWCUT

S65°04'37"E
70.92

171+00

172+00

173+00

S25°19'53"E
74.34'

SAWCUT

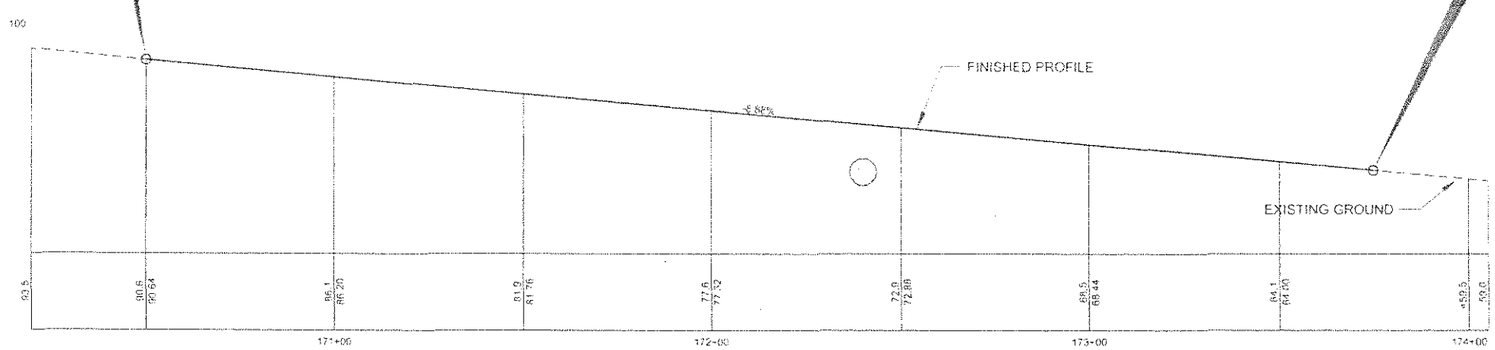
CURVE DATA
Δ = 25°44'44.45"
DOC = 14°19'26.20"
TANGENT = 91.41'
LENGTH = 179.74'
RADIUS = 400.00'
e = 6.0%
BST = 170+34
BFS = 171+58
EFS = 172+63
EST = 173+67

EDGE OF PAVEMENT

SLOPE LIMITS

BEGIN RECONSTRUCTION
STA. 170+50.00 P.O.T.
ELEV. = 90.64'
N. 10,599.644
E. 9,543.100
MATCH EXISTING PAVEMENT

END RECONSTRUCTION
STA. 173+75.00 P.O.T.
ELEV. = 61.78'
N. 10,362.257
E. 9,757.430
MATCH EXISTING PAVEMENT



SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

MUD BAY RD. 6.0 MILE
PLAN AND PROFILE

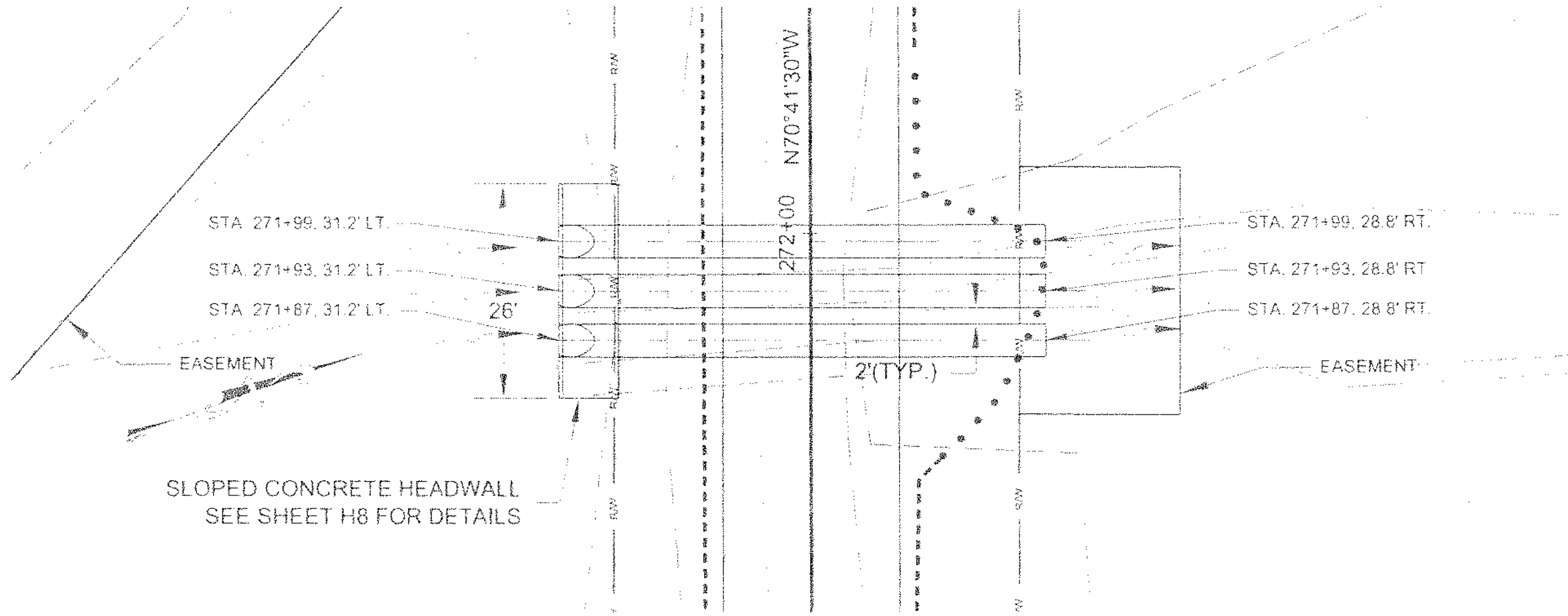
DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHCOAST REGION

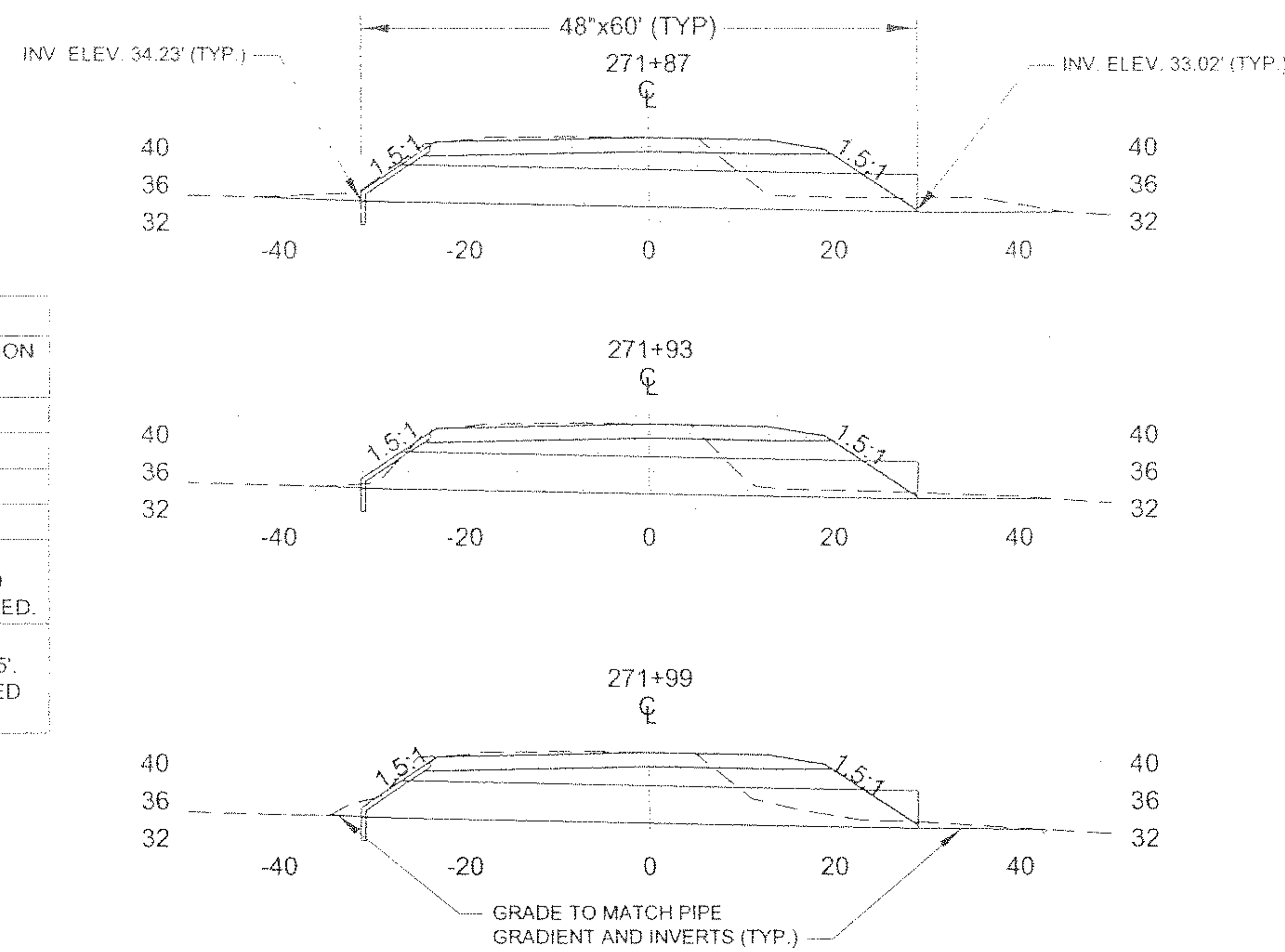
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

MUD BAY RD. 6.0 MILE
PLAN AND PROFILE

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
F6	36



PLAN



PROFILES

HYDRAULIC SUMMARY		
RETURN PERIOD	FLOW RATE (CFS)	HEADWATER ELEVATION (FT)
Q50	268	40.5
Q100	304	41.4
Q500	397	42.4
CAPACITY	50 YEAR	
PURPOSE	STREAM CHANNEL CROSSING WITH MINIMUM Q50 DESIGN CAPACITY. NO FISH PASSAGE PROVISIONS REQUIRED.	
HYDRAULIC NOTES	WATER OVERTOPS ROAD AT 42.0'. OVERFLOWS TO DITCH AT ELEV. 40.5'. HYDRAULIC CALCULATIONS ASSUMED 1-FT. SEDIMENT BLOCKING FLOW.	

ADDENDUM NUMBER

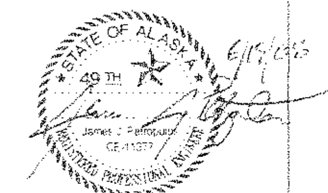
ATTACHMENT NUMBER

RECORD OF REVISIONS

NO. | DATE | DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK RD. 0.3 MILE
CULVERT REPLACEMENT
DETAILS

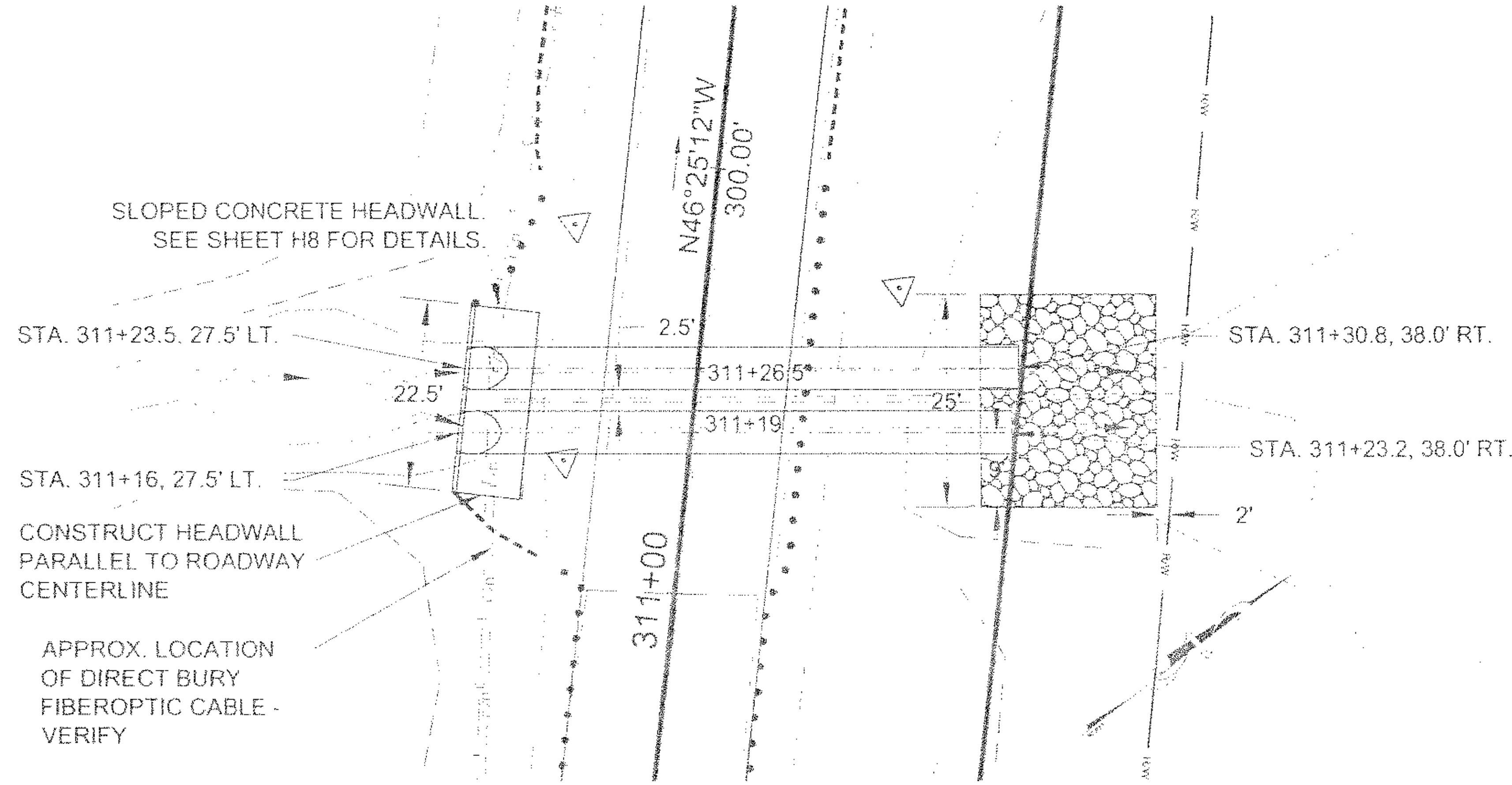


DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

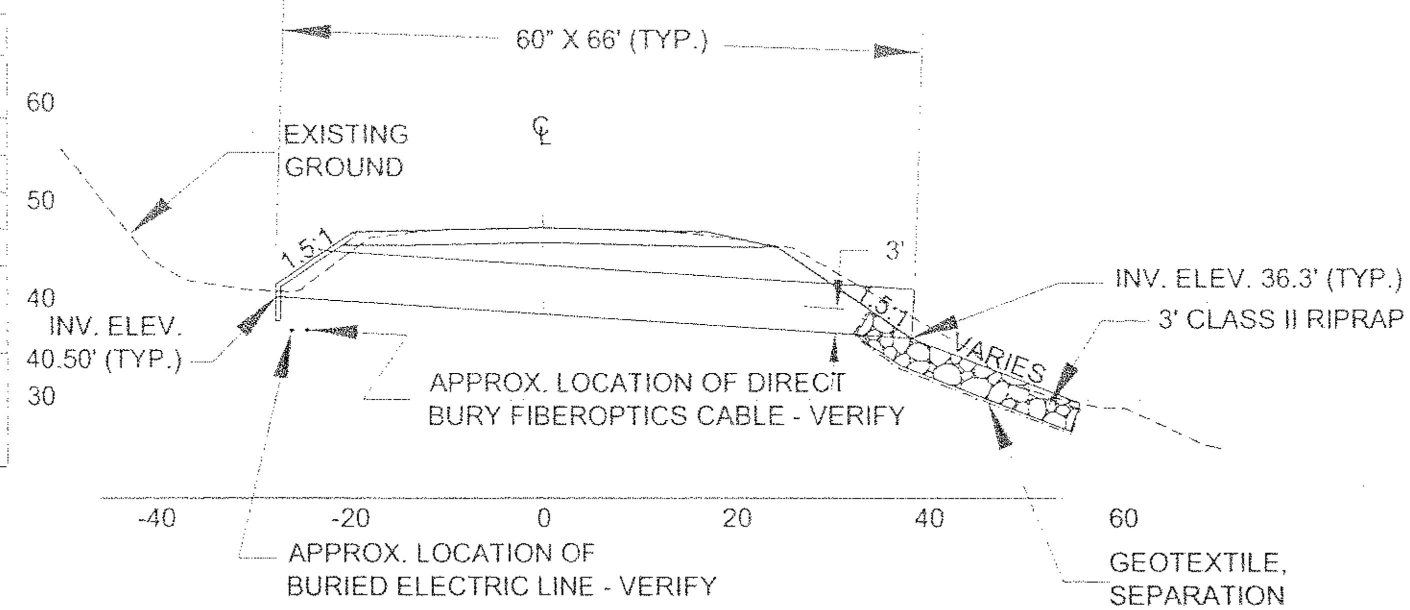
LUTAK RD. 0.3 MILE CULVERT REPLACEMENT DETAILS

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H1	36



PLAN

HYDRAULIC SUMMARY		
RETURN PERIOD	FLOW RATE (CFS)	HEADWATER ELEVATION (FT)
Q50	66	45.0
Q100	75	45.2
Q500	98	45.7
CAPACITY	50 YEAR	
PURPOSE	STREAM CHANNEL CROSSING WITH MINIMUM Q50 DESIGN CAPACITY. NO FISH PASSAGE PROVISIONS REQUIRED.	
HYDRAULIC NOTES	WATER OVERTOPS ROAD AT 47.6'. OVERFLOWS TO DITCH AT ELEV. 45.0'. ASSUMED 2.5-FT. SEDIMENT BLOCKING FLOW.	



PROFILE

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK RD. 1.2 MILE CULVERT REPLACEMENT DETAILS

STATE OF ALASKA
49TH
James J. Pet…

DESIGNED BY: J. PETROPULOS
DRAWN BY: C. STEVENS

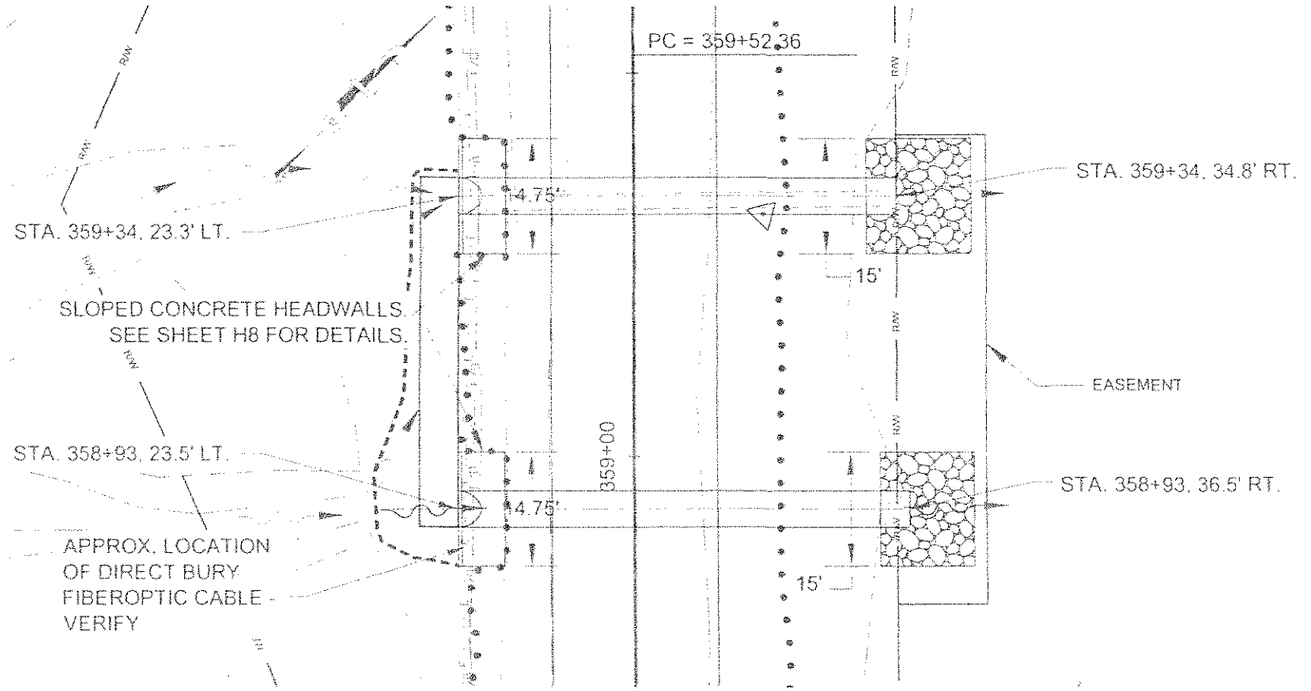
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

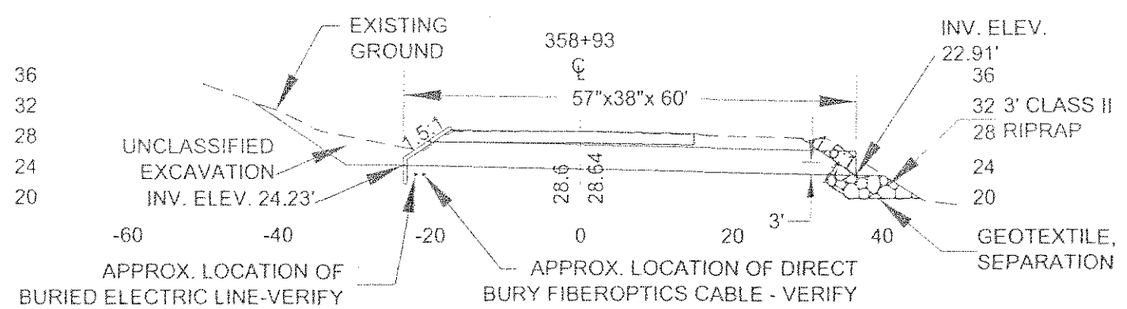
LUTAK RD. 1.2 MILE CULVERT REPLACEMENT DETAILS

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H2	36

HYDRAULIC SUMMARY		
RETURN PERIOD	FLOW RATE (CFS)	HEADWATER ELEVATION (FT)
Q50	48	27.6
Q100	54	28.2
Q500	71	28.6
CAPACITY	100 YEAR	
PURPOSE	STREAM CHANNEL CROSSING WITH MINIMUM Q50 DESIGN CAPACITY. NO FISH PASSAGE PROVISIONS REQUIRED.	
HYDRAULIC NOTES	WATER OVERTOPS ROAD AT 28.0'. ASSUMED 1.5-FT. SEDIMENT BLOCKING FLOW.	



PLAN



PROFILES

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK RD. 2.1 MILE CULVERT REPLACEMENT DETAILS

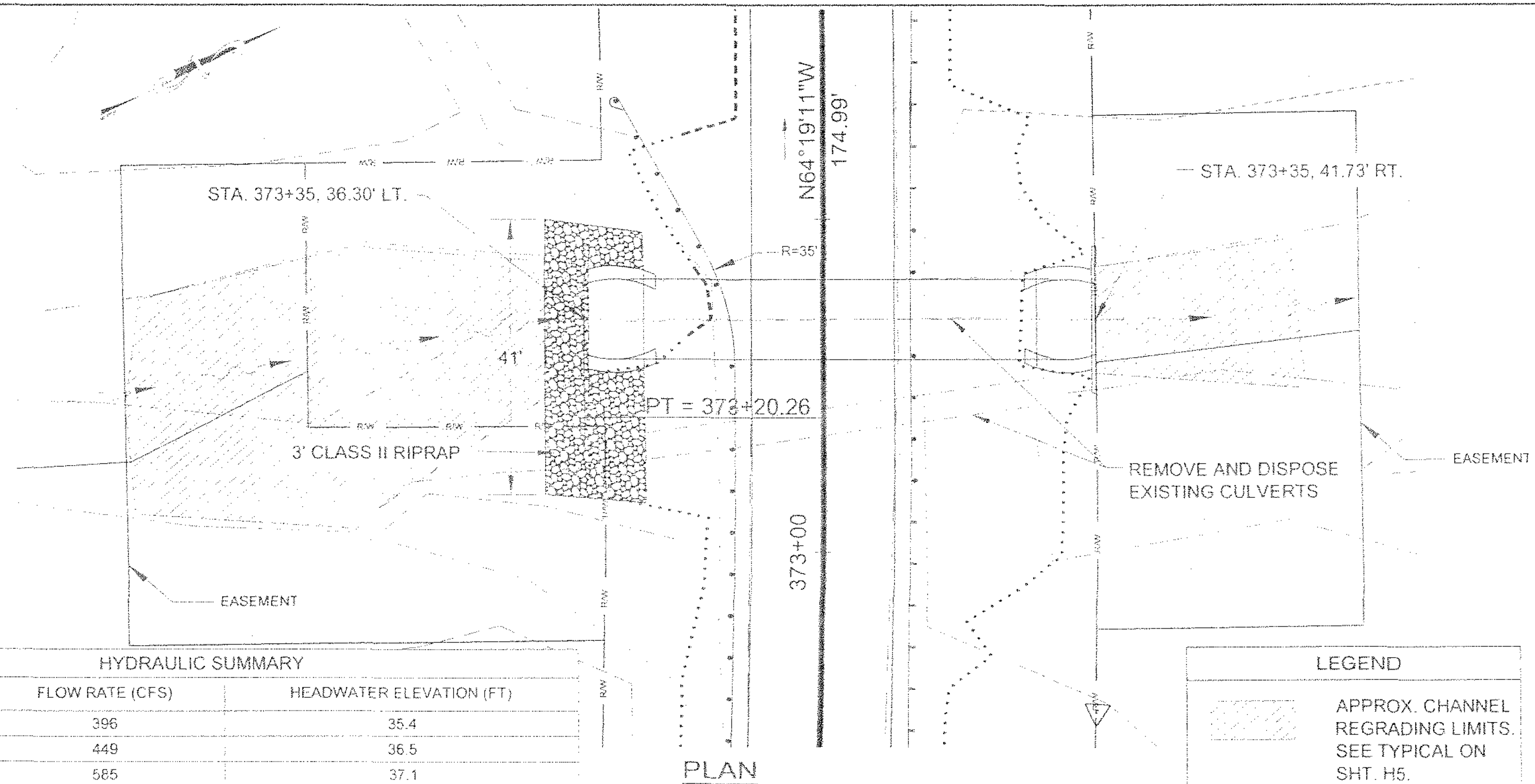
DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK RD. 2.1 MILE CULVERT REPLACEMENT DETAILS

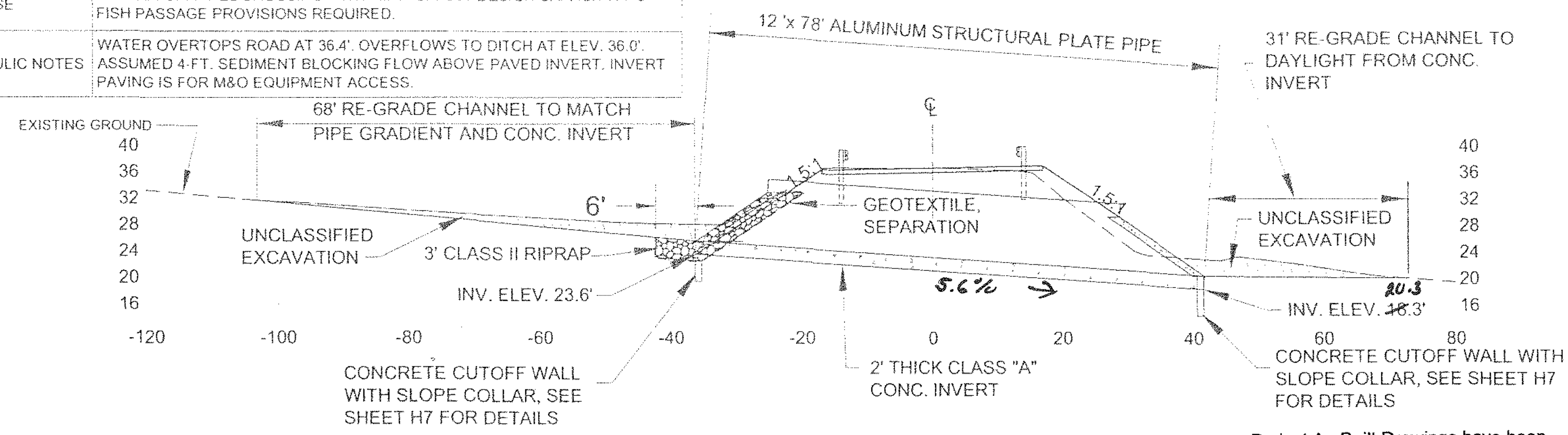
PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H3	36



PLAN

HYDRAULIC SUMMARY

RETURN PERIOD	FLOW RATE (CFS)	HEADWATER ELEVATION (FT)
Q50	396	35.4
Q100	449	36.5
Q500	585	37.1
CAPACITY	50 YEAR	
PURPOSE	STREAM CHANNEL CROSSING WITH MINIMUM Q50 DESIGN CAPACITY. NO FISH PASSAGE PROVISIONS REQUIRED.	
HYDRAULIC NOTES	WATER OVERTOPS ROAD AT 36.4'. OVERFLOWS TO DITCH AT ELEV. 36.0'. ASSUMED 4-FT. SEDIMENT BLOCKING FLOW ABOVE PAVED INVERT. INVERT PAVING IS FOR M&O EQUIPMENT ACCESS.	



PROFILE

Project As-Built Drawings have been reviewed by the Project Engineer and represent to the best of my knowledge, the project as constructed.

PE ________ Date 4-29-2011

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

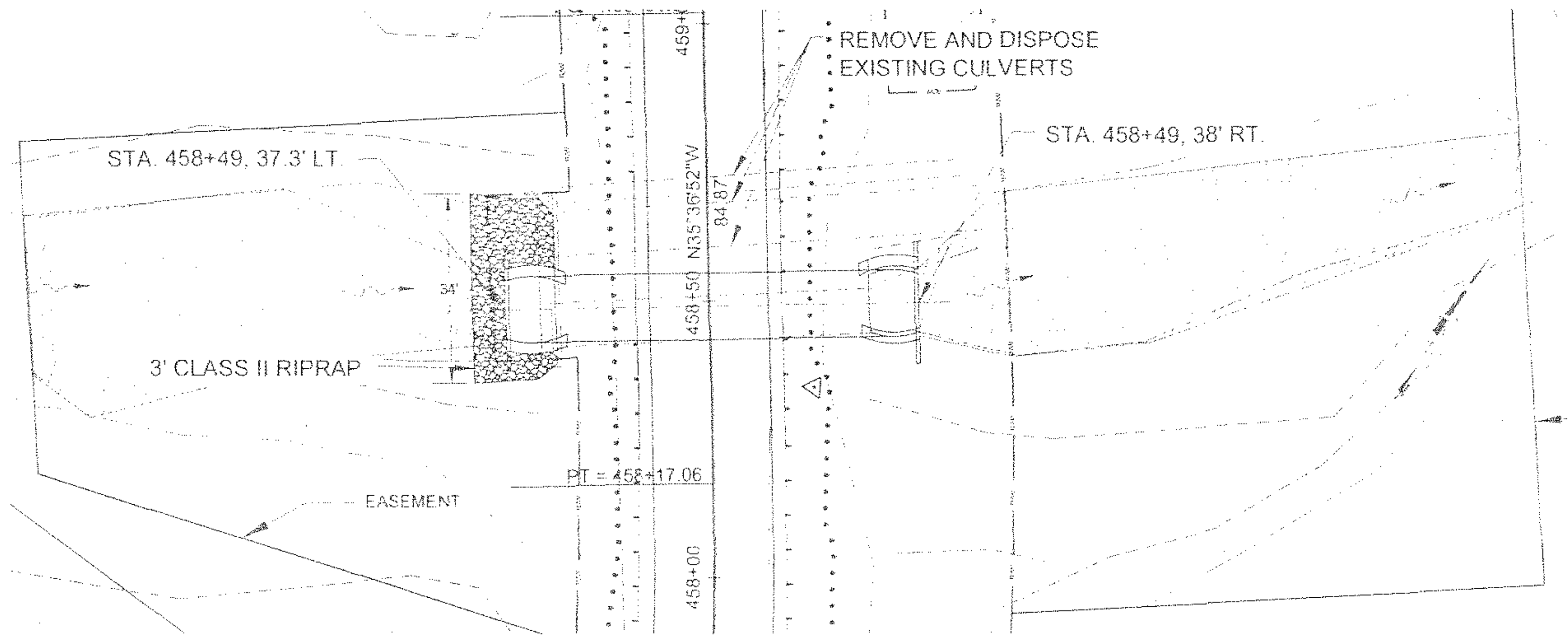
LUTAK RD. 2.4 MILE CULVERT REPLACEMENT DETAILS

DESIGNED BY: J. PETROPULOS
DRAWN BY: G. STEVENS

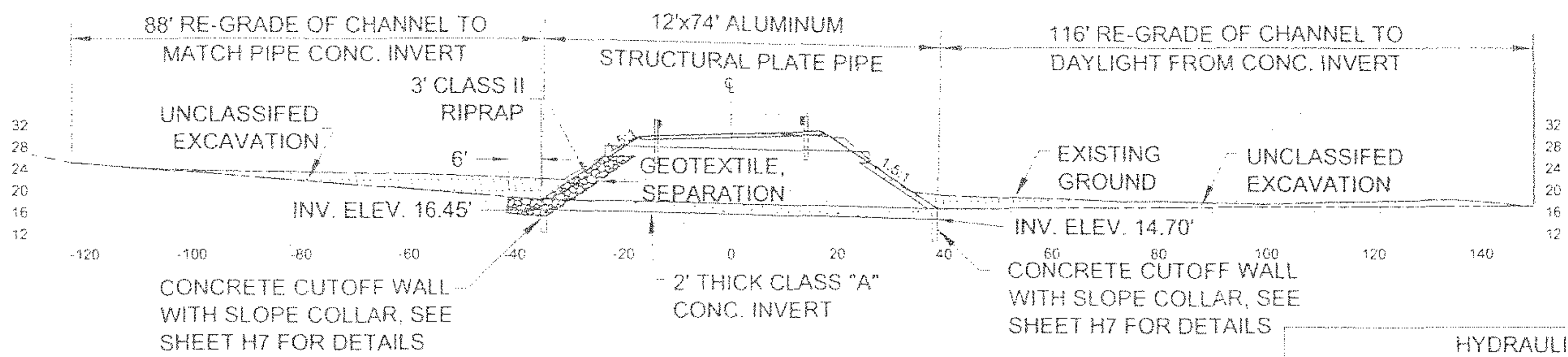
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

LUTAK RD. 2.4 MILE CULVERT REPLACEMENT DETAILS

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H4	36

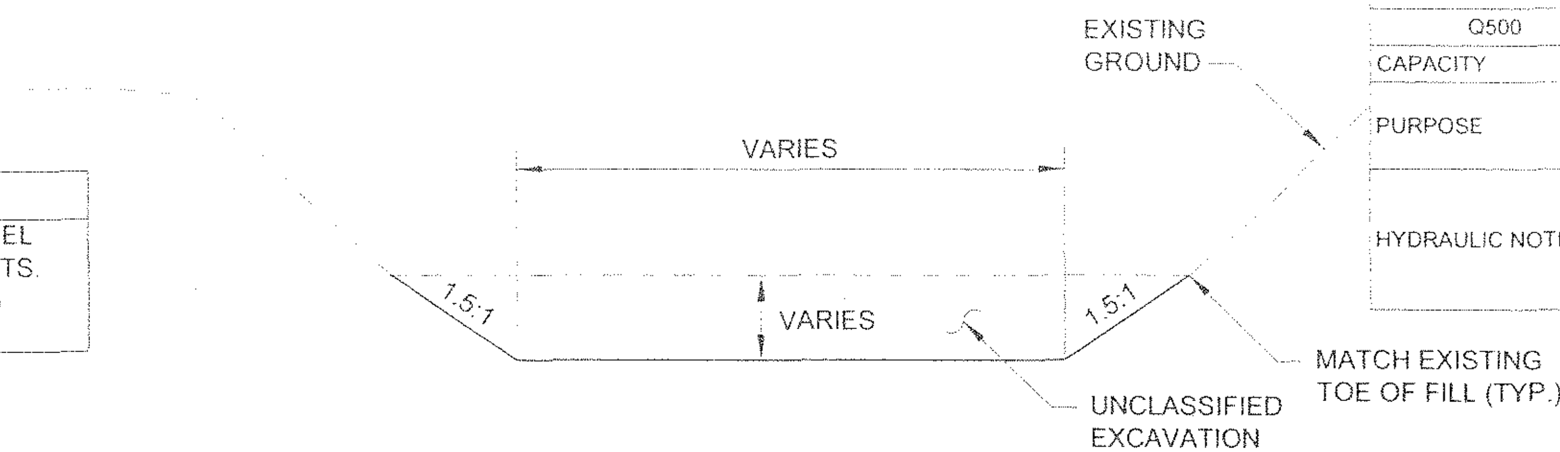


PLAN



PROFILE

HYDRAULIC SUMMARY		
RETURN PERIOD	FLOW RATE (CFS)	HEADWATER ELEVATION (FT)
Q50	695	30.7
Q100	788	31.3
Q500	1026	32.0
CAPACITY	50 YEAR	
PURPOSE	STREAM CHANNEL CROSSING WITH MINIMUM Q50 DESIGN CAPACITY. NO FISH PASSAGE PROVISIONS REQUIRED.	
HYDRAULIC NOTES	WATER OVERTOPS ROAD AT 30.6' ASSUMED 3-FT. SEDIMENT BLOCKING FLOW ABOVE PAVED INVERT. INVERT PAVING IS FOR M&O EQUIPMENT ACCESS.	



CHANNEL REGRADING TYPICAL

LEGEND
APPROX. CHANNEL REGRADING LIMITS. SEE REGRADING TYPICAL

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

LUTAK RD. 3.9 MILE
CULVERT REPLACEMENT
DETAILS

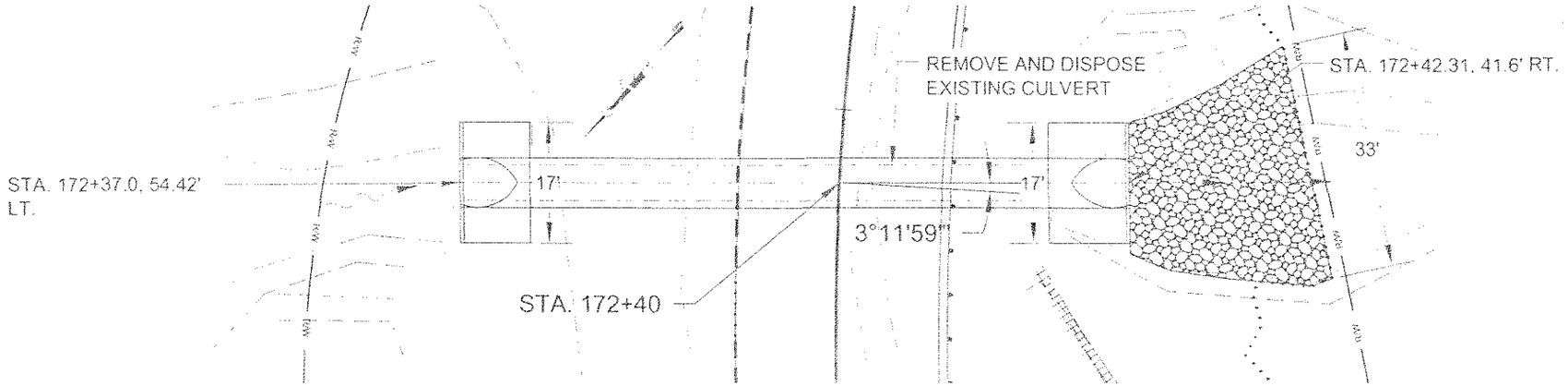
STATE OF ALASKA
49 TH
REGISTERED PROFESSIONAL ENGINEER
6-19-08

DESIGNED BY J. PETROPULOS
DRAWN BY D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

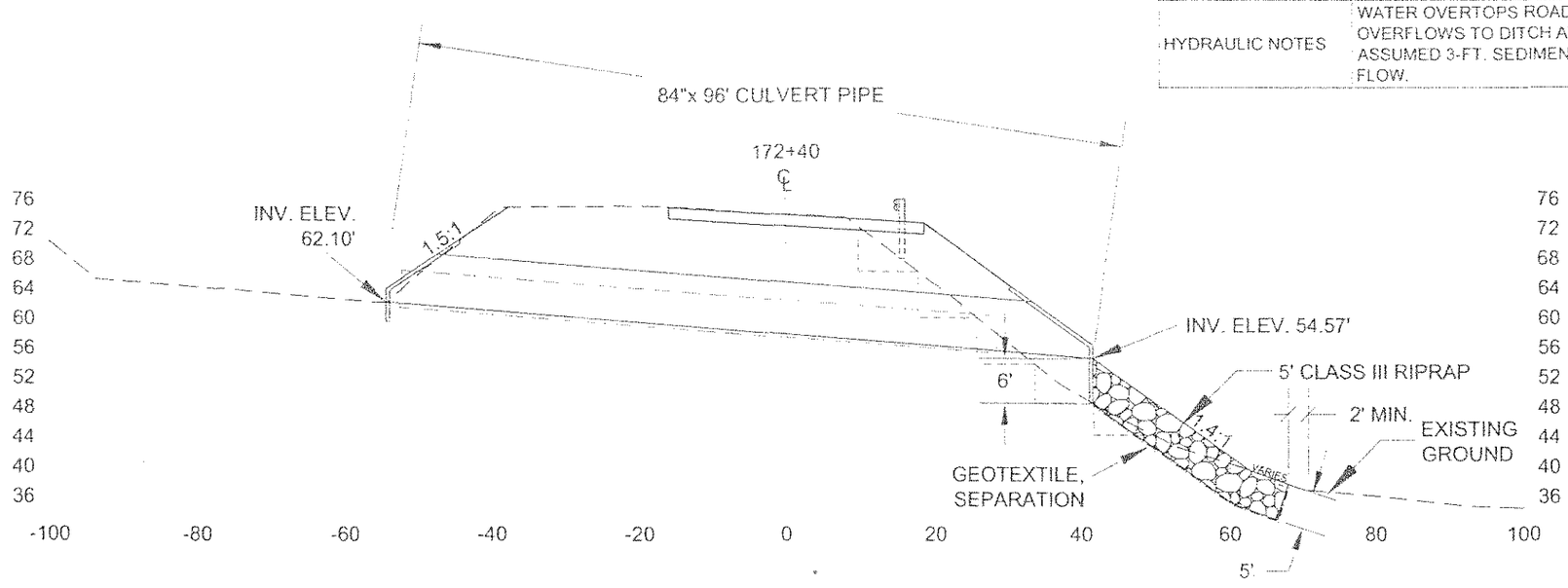
LUTAK RD. 3.9 MILE
CULVERT REPLACEMENT
DETAILS

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H5	36



PLAN

HYDRAULIC SUMMARY		
RETURN PERIOD	FLOW RATE (CFS)	HEADWATER ELEVATION (FT)
Q50	191	71.3
Q100	217	72.2
Q500	283	75.2
CAPACITY	100 YEAR	
PURPOSE	STREAM CHANNEL CROSSING WITH MINIMUM Q50 DESIGN CAPACITY. NO FISH PASSAGE PROVISIONS REQUIRED.	
HYDRAULIC NOTES	WATER OVERTOPS ROAD AT 75.0'. OVERFLOWS TO DITCH AT ELEV. 74.0'. ASSUMED 3-FT. SEDIMENT BLOCKING FLOW.	



PROFILE

REVISIONS

NO.	DATE	DESCRIPTION

ADDENDUM NUMBER

ATTACHMENT NUMBER

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

MUD BAY RD. 6.0 MILE CULVERT REPLACEMENT DETAILS

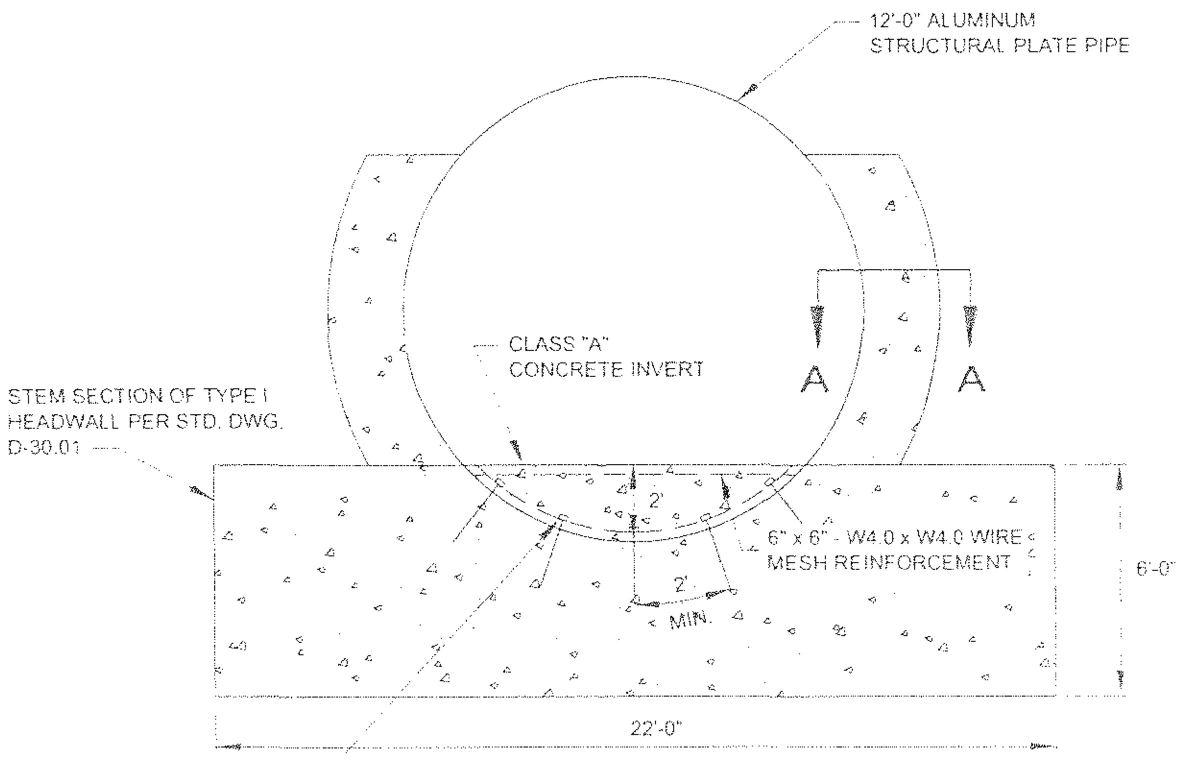
DESIGNED BY J. PETROVICH
DRAWN BY D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

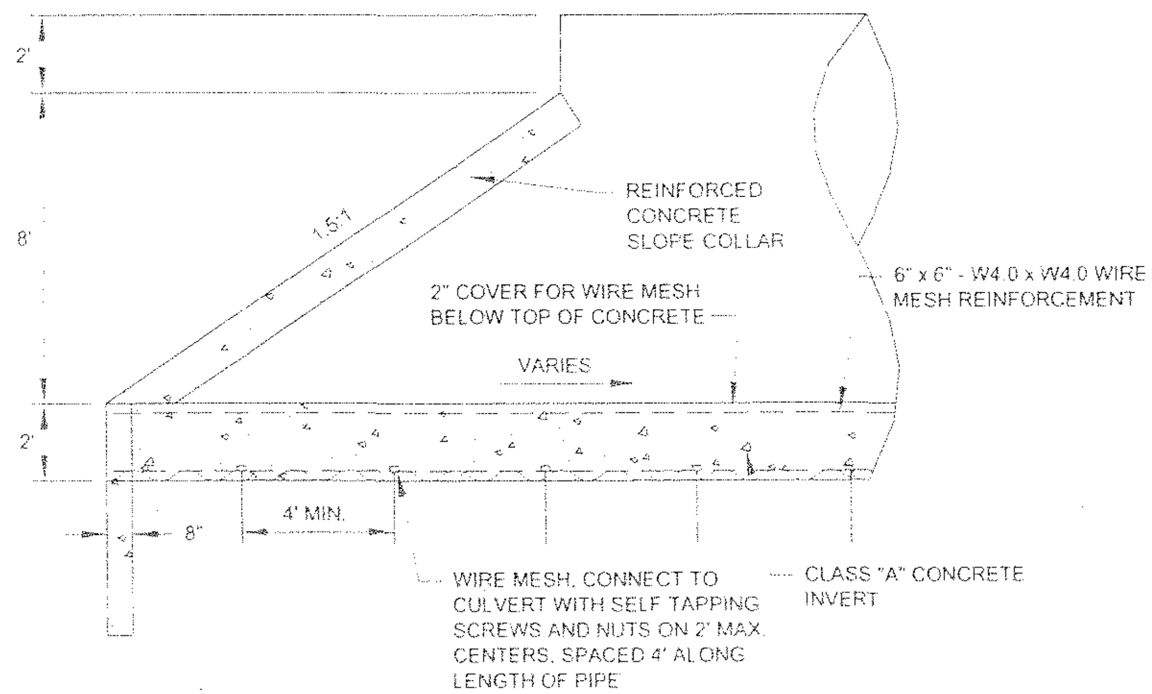
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

MUD BAY RD. 6.0 MILE CULVERT REPLACEMENT DETAILS

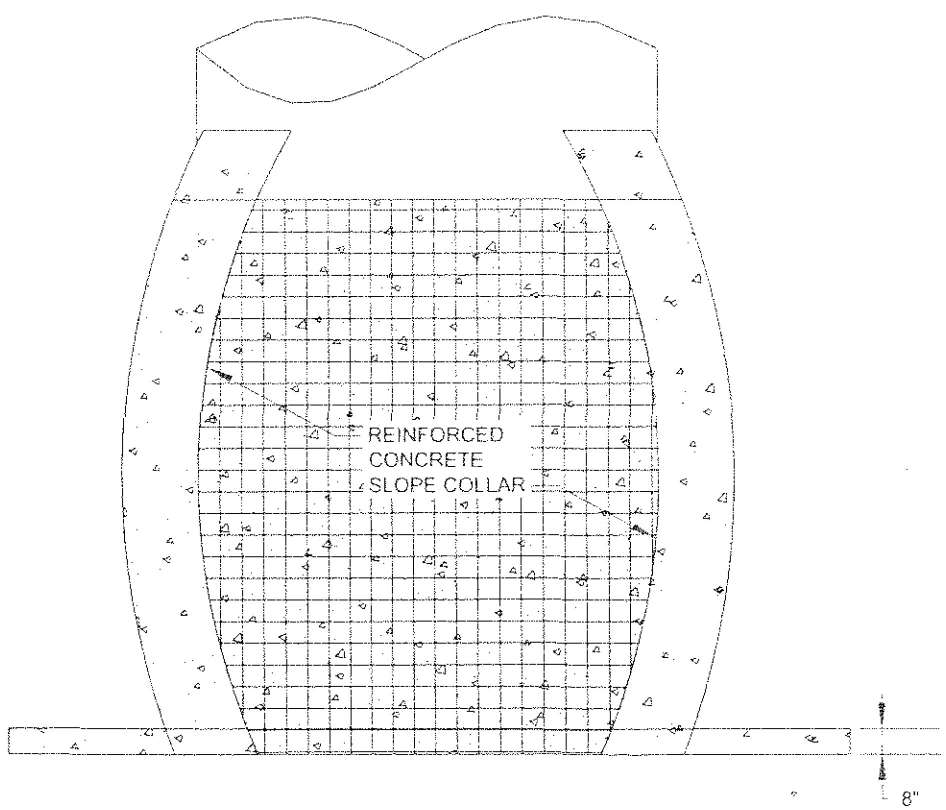
PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H6	36



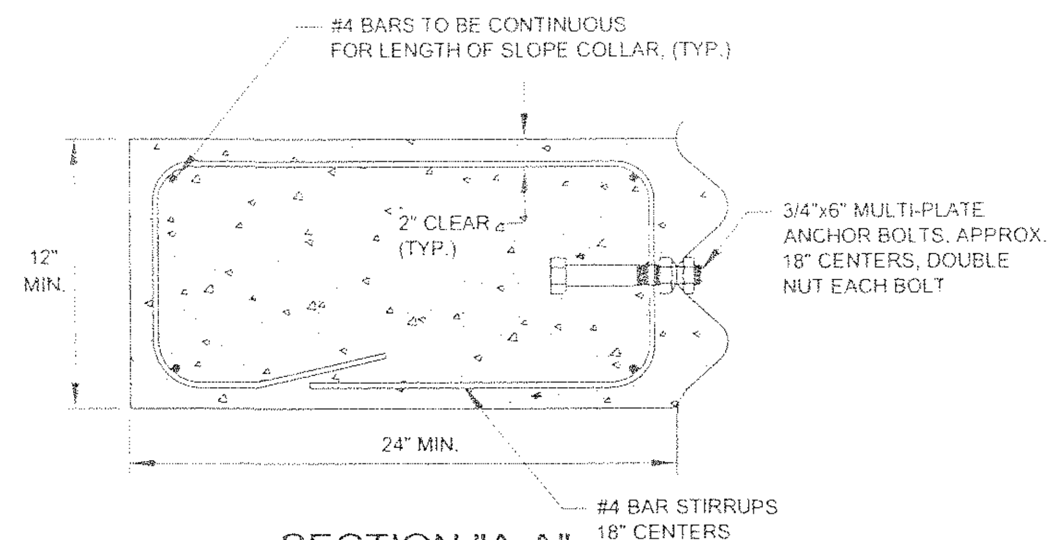
ELEVATION



PROFILE



PLAN



SECTION "A-A"

NOTES:

1. CUTOFF WALL REINFORCING STEEL NOT SHOWN FOR CLARITY. SEE STD. DWG. D-30.01 FOR REINFORCEMENT STEEL PLACEMENT IN STEM SECTION OF HEADWALL TYPE I.

2. CUTOFF WALLS: THE MINIMUM DEPTH SHOWN MAY BE REDUCED IN SOLID ROCK, PROVIDED THE WALL IS KEYED INTO ROCK AT LEAST 12".

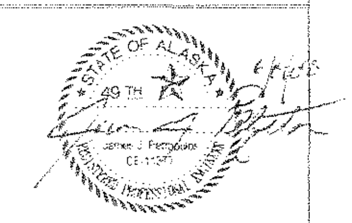
3. ANCHOR BOLTS AND NUTS: PROVIDE GALVANIZED WITH ZINC COATING, SUPPLIED BY THE PIPE MANUFACTURER.

4. SELF TAPPING SCREWS AND NUTS: PROVIDE GALVANIZED WITH ZINC COATING, SUPPLIED BY THE PIPE MANUFACTURER.

5. WIRE MESH: PROVIDE GALVANIZED WITH ZINC COATING.

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

ALUMINUM STRUCTURAL PLATE PIPE CUTOFF WALL, SLOPE COLLAR AND PAVED INVERT DETAILS



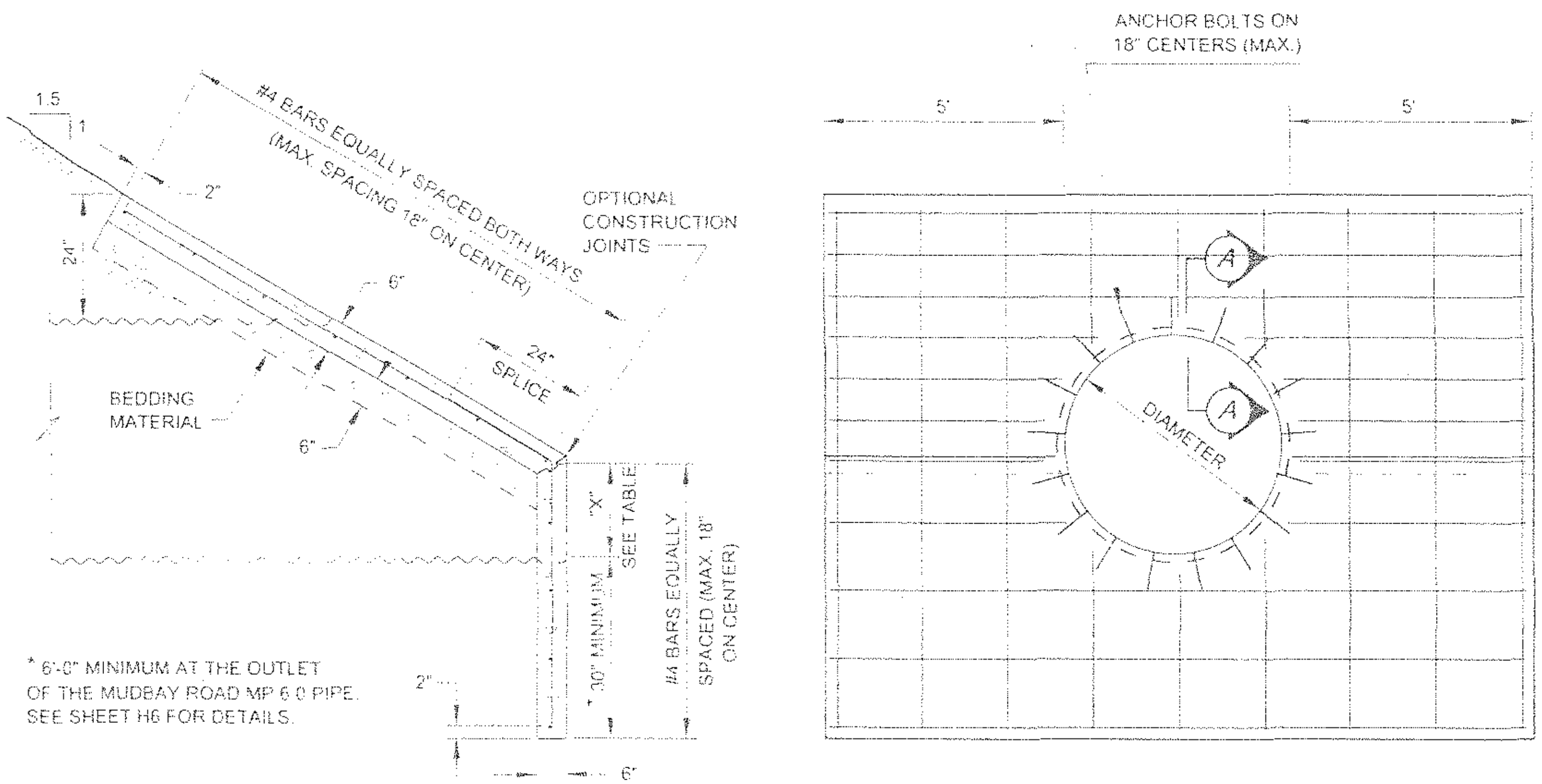
DESIGNED BY J. PETROPULOS
DRAWN BY D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

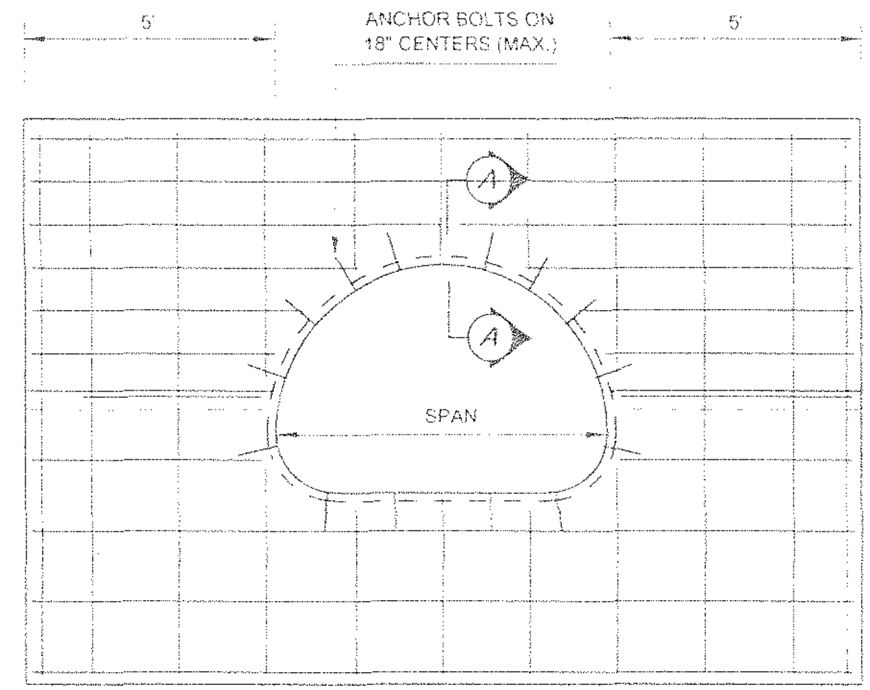
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

ALUMINUM STRUCTURAL PLATE PIPE CUTOFF WALL, SLOPE COLLAR AND PAVED INVERT DETAILS

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H7	36



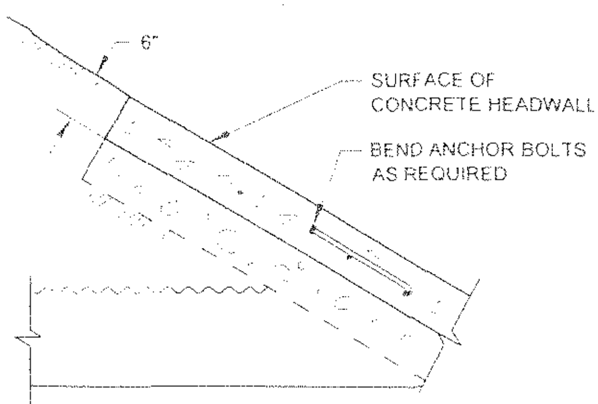
STEP BEVEL FOR ROUND PIPE AND PIPE ARCH



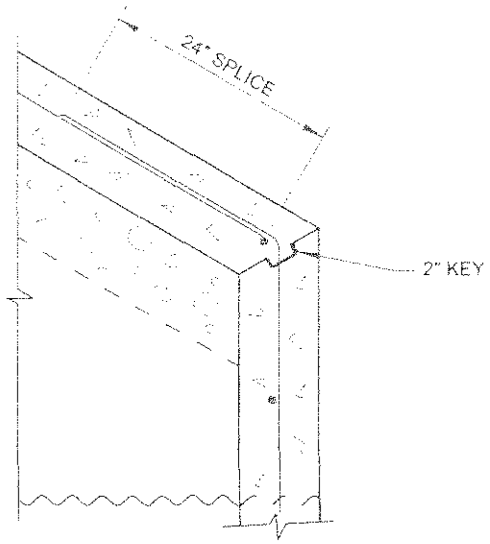
STEP BEVEL FOR PIPE ARCH CULVERT

NOTES:

1. CLASS A CONCRETE: CHAMFER ALL EXPOSED EDGES 3/4".
2. CUTOFF WALLS: THE MINIMUM DEPTH SHOWN MAY BE REDUCED IN SOLID ROCK, PROVIDED WALL IS KEYED INTO THE ROCK AT LEAST 12".
3. HOOK BOLTS: PER STANDARD DRAWING D-30.01.
4. MULTIPLE PIPE INSTALLATION: SPACING PER STANDARD DRAWING D-30.01.
5. ANCHOR BOLTS AND NUTS: PROVIDE GALVANIZED WITH ZINC COATING, SUPPLIED BY THE PIPE MANUFACTURER



SECTION "A-A"



CONSTRUCTION JOINT DETAIL

STEP BEVEL	
PIPE SIZE (IN.)	"X" (IN.)
48	12
60	15
84	21
57x38	12

DO NOT SCALE FROM THESE DRAWINGS USE DIMENSIONS

ADDENDUM NUMBER

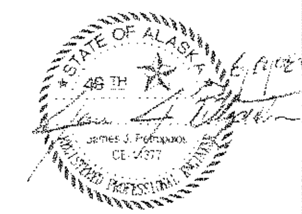
ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

REINFORCED SLOPED
CONCRETE HEADWALL



DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

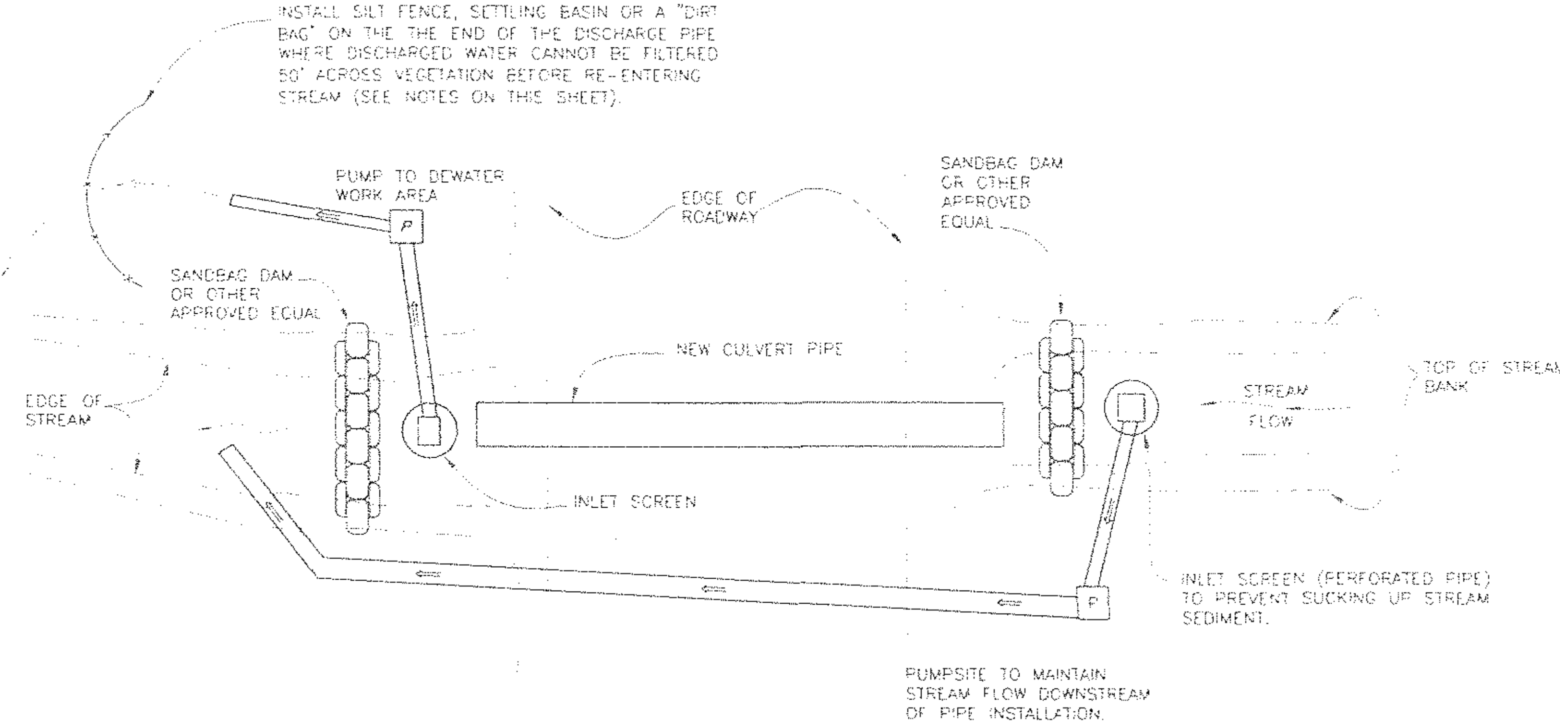
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

REINFORCED SLOPED CONCRETE HEADWALL

PROJECT DESIGNATION NUMBER
69236 / ER-0079(2)

STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H8	36



CULVERT REMOVAL/INSTALLATION USING PUMPS

Notes:

1. WHEN INSTREAM WORK AREAS REQUIRE DEWATERING, THE PUMP DISCHARGE SHALL BE PLACED SO THAT THERE IS A MINIMUM OF 50 FEET OF VEGETATED AREAS BETWEEN THE DISCHARGE POINT AND THE STREAM BANK SUCH THAT NO SILT-LADEN WATER ENTERS THE STREAM. THIS MAY REQUIRE FREQUENT REPOSITIONING OF THE DISCHARGE LOCATION AND/OR ADDITIONAL DISCHARGE TREATMENT METHODS.

2. MULTIPLE PUMPS MAYBE NECESSARY TO DEWATER WORK AREAS AND/OR MAINTAIN STREAM BYPASS FLOW. THE CONTRACTOR SHALL PROVIDE ADEQUATE QUANTITIES AND SIZES OF PUMPS.

3. IN LIEU OF USING PUMPS, THE CONTRACTOR MAY ELECT TO DIVERT THE STREAM FLOW TO EXISTING CULVERTS SLATED FOR REMOVAL PROVIDED THEY DON'T HINDER THE PROPER PLACEMENT AND BACKFILL OF NEW CULVERTS AND HEADWALLS, IF ANY.

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
ER-0079(2) / 69236

Culvert Installation Details

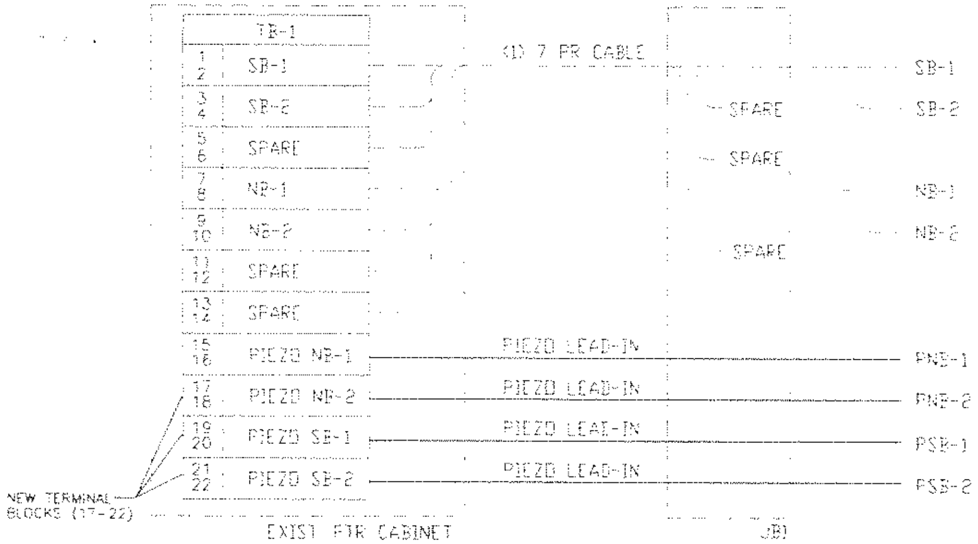
DESIGNED BY: C. HAKARI
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
STATEWIDE DESIGN & ENGINEERING SERVICES DIVISION

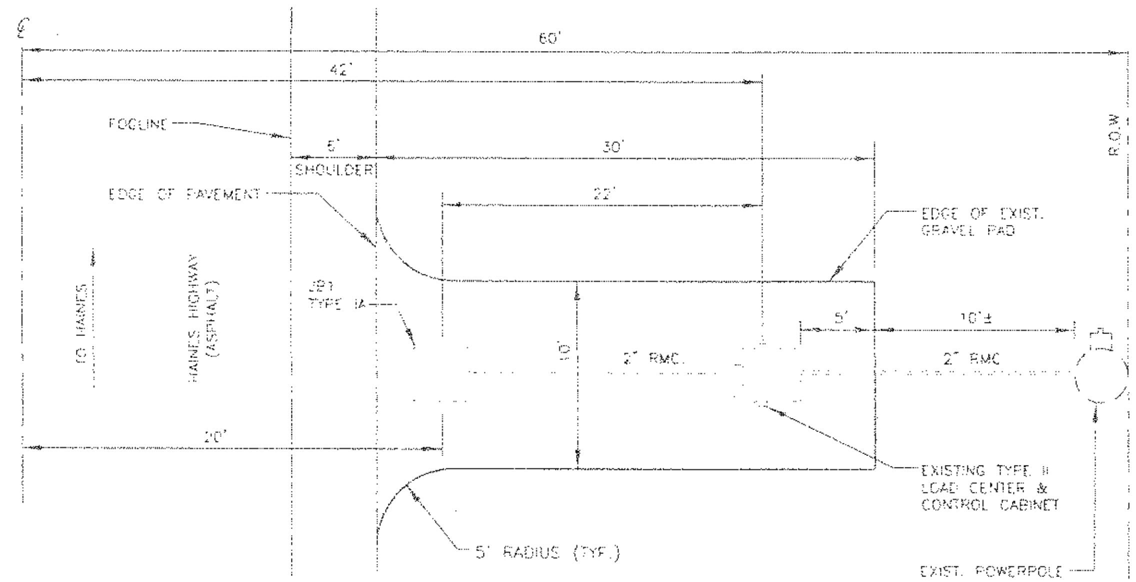
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

Culvert Installation Details

PROJECT DESIGNATION NUMBER	
ER-0079(2) / 69236	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
H9	36

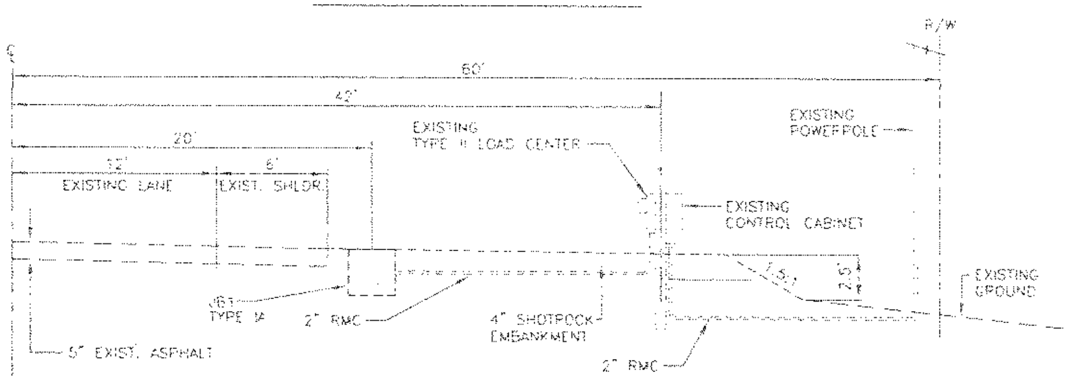


WIRING SCHEMATIC



PLAN VIEW OF EXISTING PAD

N.T.S.



PROFILE VIEW SECTION B - B

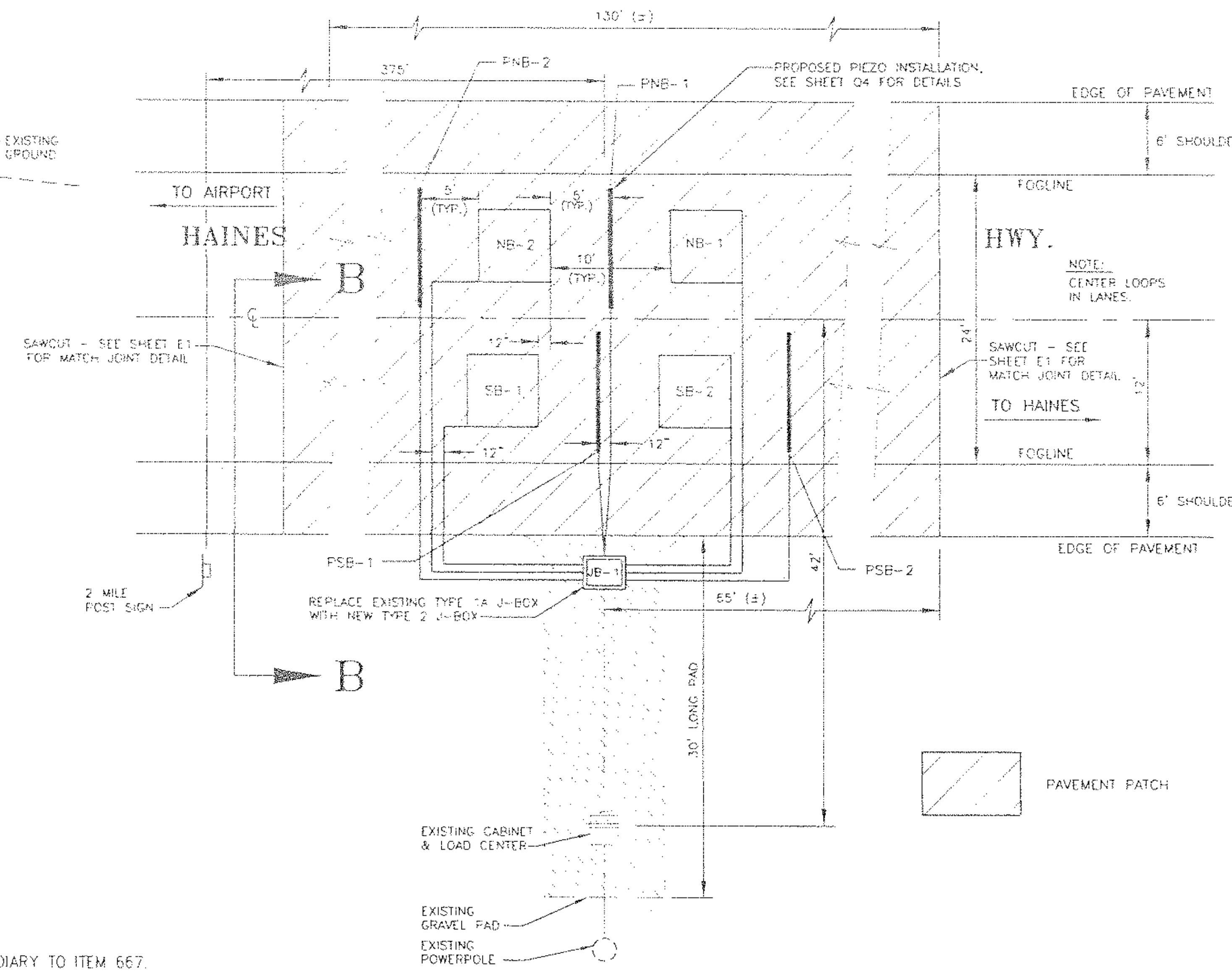
NOT TO SCALE

CONDUIT				CABLE		
TYPE	SIZE	FROM	TO	QTY.	TYPE	NOTES
RMC	2"	PTR	JB1	1	(1) 7PR No. 18	EXISTING CONDUIT
RMC	2"	PTR	JB1	4	PIEZO SENSOR HOME RUN CABLE	
PVC	1"	JB1	NB-1	1	1PR No.14	
PVC	1"	JB1	NB-2	1	1PR No.14	
PVC	1"	JB1	SB-1	1	1PR No.14	
PVC	1"	JB1	SB-2	1	1PR No.14	
RMC	1"	JB1	PNB-1	1	PIEZO SENSOR HOME RUN CABLE	
RMC	1"	JB1	PNB-2	1	PIEZO SENSOR HOME RUN CABLE	
RMC	1"	JB1	PSB-1	1	PIEZO SENSOR HOME RUN CABLE	
RMC	1"	JB1	PSB-2	1	PIEZO SENSOR HOME RUN CABLE	

CONDUIT/CONDUCTOR SCHEDULE

SHEET NOTES

1. INDUCTION LOOPS SHALL BE CENTERED IN TRAFFIC LANES.
2. EXISTING JUNCTION BOX IS TYPE IA.
3. FOR PIEZO INSTALLATION DETAILS SEE SHEET Q3.
4. FOR TRAFFIC LOOPS DETAIL SEE SHEET Q2.
5. REMOVAL OF EXISTING TRAFFIC LOOPS, PIEZOS, CONDUIT, AND CONDUCTORS SHALL BE CONSIDERED SUBSIDIARY TO ITEM 667.
6. CONNECT ALL LOOP AND PIEZO CONDUCTORS TO CORRESPONDING TERMINAL BLOCKS IN EXISTING PTR CABINET.
7. EXISTING PTR CABINET IS CONFIGURED FOR 1 PIEZO LOOP IN EACH LANE. INSTALL NEW WIRING, LABELS AND TERMINAL BLOCKS AS REQUIRED FOR CONFIGURATION WITH 2 PIEZO LOOPS IN EACH LANE.
8. EXISTING CABINET MAY BE RE-USED. INSTALL NEW PEEK 2000+ADR WITH 4 CHANNEL LOOP CARD AND 4 CHANNEL PIEZO CARD.



PLAN

PIEZO AXLE SENSOR TYPICAL

N.T.S.

HAINES HIGHWAY PERMANANT TRAFFIC RECORDER NH-095-6(31) - 67778

SUMMARIES, WIRING DIAGRAM, LOOP AND PIEZO LAYOUT

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO. DATE DESCRIPTION

CHECKED BY: C. MOREHOUSE

STATE OF ALASKA 49TH Casey J. Morehouse CE-10691 REGISTERED PROFESSIONAL ENGINEER 6/19/08

DESIGNED BY: D. FAGNANT

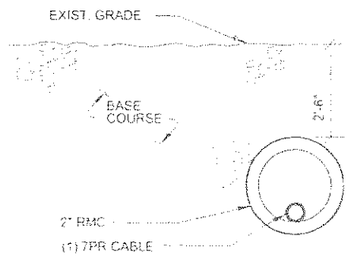
DRAWN BY: D. FAGNANT

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES SOUTHEAST REGION

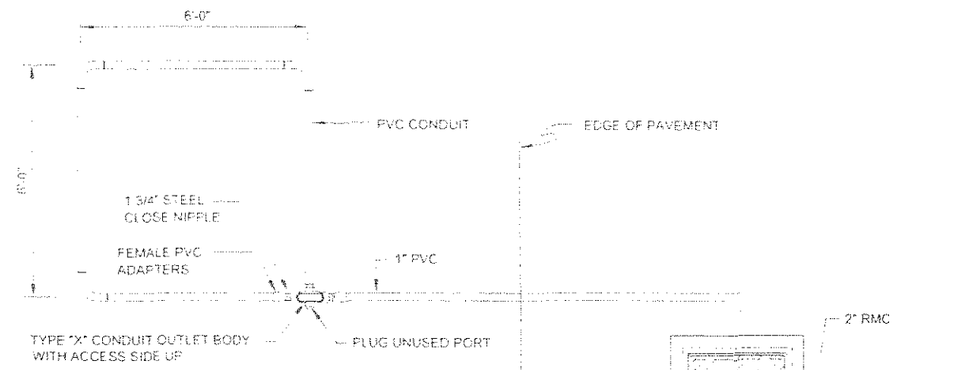
HAINES HWY PERMANANT TRAFFIC RECORDER

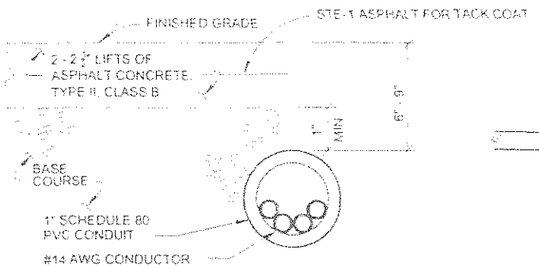
SUMMARIES, WIRING DIAGRAM, LOOP AND PIEZO LAYOUT

PROJECT DESIGNATION NUMBER	
NH-095-6(31) / 67778	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
Q1	36

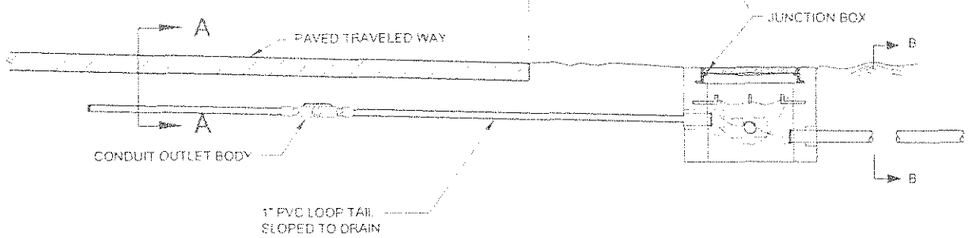


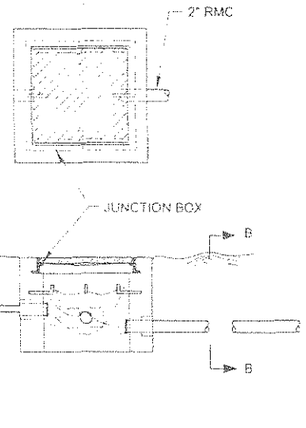
SECTION B-B



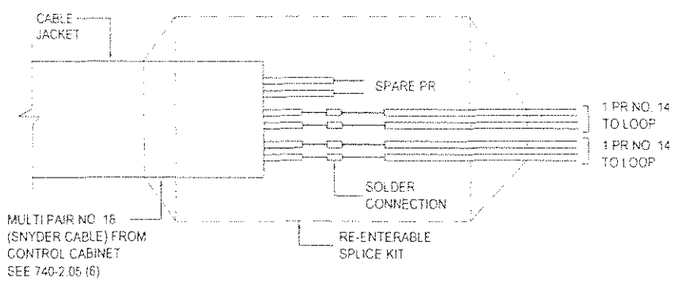


PVC CONDUIT DETAIL
SECTION A-A



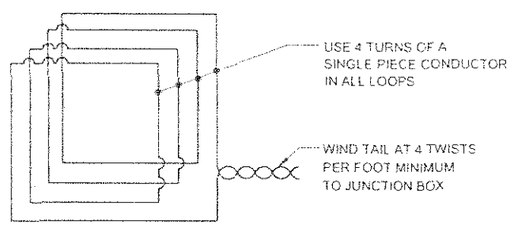


SHOULDER SECTION



TYPICAL SPLICE DETAILS

NOTES:
1. SCHEMATIC SKETCH SHOWS AN EXAMPLE OF TWO PAIRS USED WITH ONE SPARE
2. TERMINATE ALL SPARES WITHIN THE SPLICE BODY.
3. SPLICE BODY TO ENCLOSE ALL CABLE JACKETS.
4. SOLDER CONNECTIONS. DO NOT USE COMPRESSION CONNECTORS WRAP EACH CONDUCTOR OVER OTHER CONDUCTOR BEFORE SOLDERING.
5. USE COMMERCIAL SPLICE KITS SIMILAR OR EQUAL TO 3M PRODUCTS, TYPE SCOTCHCAST 76-R.



LOOP WIRING DETAIL

TYPICAL PVC CONDUIT ENCASED LOOP DETECTOR INSTALLATION

GENERAL NOTES

1. EACH LOOP DETECTOR SHALL CONSIST OF A SINGLE PIECE OF #14 AWG CONDUCTOR INSTALLED IN 1" SCHEDULE 80 PVC CONDUIT. FORM ALL LOOPS 6 FEET SQUARE. SOLVENT WELD ALL PVC TO PVC JOINTS. USE TYPE X OUTLET BODIES THAT ARE MADE OF HOT DIP GALVANIZED STEEL TO JOIN THE LOOPS AND TAILS.
2. INSTALL 4 TURNS OF CONDUCTOR IN ALL LOOPS AND PROVIDE TAILS THAT EXTEND TO THE JUNCTION BOX SPECIFIED ON THE PLANS. USE #14 AWG CONDUCTOR IN A POLYETHYLENE TUBE CONFORMING TO IMSA SPECIFICATION 51-5. WIND THE TAIL CONDUCTORS TOGETHER AT A RATE OF 4 TWISTS PER FOOT.
3. INSTALL ALL LOOP DETECTORS PRIOR TO OVERLAYING EXISTING PAVEMENT OR PAVING A NEW ROADWAY.
4. INSTALL ALL LOOP DETECTORS SLOPED TO DRAIN INTO THE JUNCTION BOX THE LOOP TAIL ENTERS.
5. NO MINIMUM CLEARANCE IS REQUIRED BETWEEN A LOOP AND A TAIL OR BETWEEN TAILS. LOOP TAILS SHALL NOT CROSS LOOP CONDUITS.
6. TEST ALL LOOP DETECTORS FOR CONTINUITY AND INSULATION INTEGRITY PRIOR TO SEALING THE LOOPS UNDER ASPHALT.
7. WHEN INSTALLING LOOP DETECTORS IN EXISTING PAVEMENT, CUT THE ASPHALT WITH A SAW AND REMOVE ALL ASPHALT WITHIN THE SAW CUT. MATCH EXISTING PAVEMENT THICKNESS WHEN REPAIRING THE CUTOUT.
8. WHERE EXISTING PAVEMENT WILL NOT BE OVERLAID, ENCLOSE ALL LOOPS THAT ENTER A COMMON JUNCTION BOX WITHIN A TRAPEZOIDAL SAW CUT. CUT TO WITHIN 12" OF THE LANE AND EDGE LINES, PRESERVING THESE PAVEMENT MARKINGS; REMOVE THE ASPHALT TO THE LIP OF THE GUTTER WHEN THERE ARE NO EDGE LINES. CUT ACROSS LANE LINES WHEN LOOPS IN ADJACENT LANES ARE SIDE BY SIDE. CUT TRENCHES A MINIMUM OF 3" WIDE WHEN INSTALLING LOOP TAILS ACROSS A LANE; TRENCHES CROSSING A SHOULDER ONLY MAY BE A MINIMUM 12" WIDE.
9. HEAT AND TACK COAT THE EDGES OF EXISTING PAVEMENT PRIOR TO PAVING THE CUTOUTS. COMPACT THE ASPHALT MIXTURE WITH A SELF PROPELLED STEEL WHEELED ROLLER. THE ASPHALT MIX SHALL CONFORM TO SECTION 401 OF THE SPECIFICATIONS, AND APPROVED FOR USE BY THE ENGINEER.
10. MAINTAIN THE REPLACEMENT ASPHALT MIX AT A TEMPERATURE OF 225° F UNTIL THE TIME OF APPLICATION; IF NECESSARY, STORE THE MIX IN AN INSULATED BOX TO MAINTAIN THE SPECIFIED TEMPERATURE.
11. ALL WORK ASSOCIATED WITH INSTALLING LOOP DETECTORS IS CONSIDERED PART OF ITEM 667(1) AND WILL NOT BE MEASURED SEPARATELY OR PAID FOR DIRECTLY. THIS WORK INCLUDES BUT IS NOT LIMITED TO: LOOP MATERIALS, JUNCTION BOXES, CONDUIT, LOOP LEAD IN CABLE, TESTING, SPLICING, CONDUCTOR LABELING AND SAW CUTTING. ASPHALT REMOVAL AND INSTALLATION OF NEW NEW ASPHALT SHALL BE PAID UNDER THEIR RESPECTIVE PAY ITEMS.
12. DUCT SEAL ALL CONDUITS INSIDE THE JUNCTION BOXES.

INDUCTIVE LOOPS

INDUCTIVE LOOPS SHALL BE INSTALLED IMMEDIATELY PRIOR TO PAVING THIS SECTION OF ROADWAY. FINAL LIFT ASPHALT PAVEMENT SHALL BE SMOOTH OVER ALL INDUCTIVE LOOPS AND WITHOUT TRANSVERSE SEAMS, JOINTS, OR ROUGHNESS WITHIN 50' OF THE LOOPS.

PLOT: [illegible]
ADDENDUM NUMBER
ATTACHMENT NUMBER
REVISED OR ASSUMED
DATE ITEM DESCRIPTION

HAINES HIGHWAY PERMANANT TRAFFIC RECORDER NH-095-6(31) ~ 67778

LOOP DETECTOR DETAILS

CHECKED BY: C. WAREHOUSE

STATE OF ALASKA 49TH — Carolyn H. Warehouse CE-10661 — REGISTERED PROFESSIONAL ENGINEER — 4/9/08

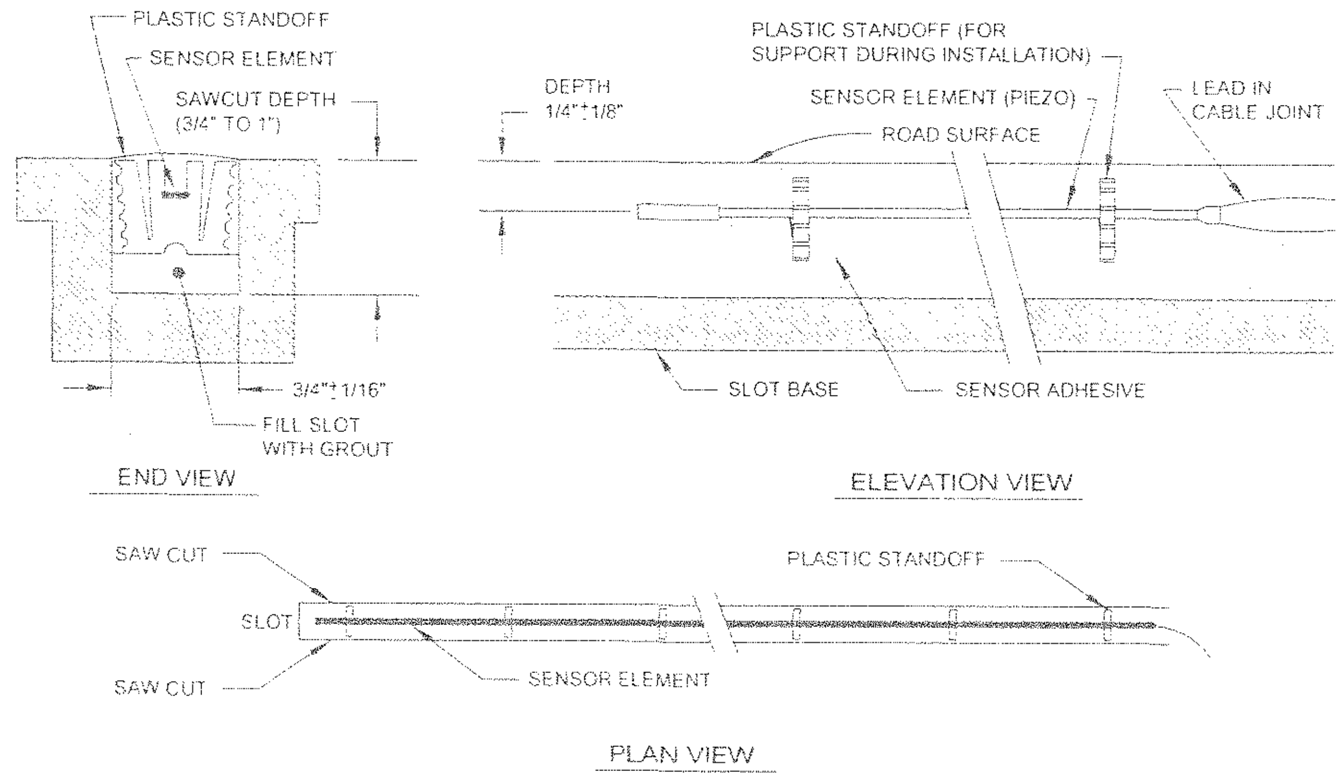
DESIGNED BY: C. FAGNANT
DRAWN BY: C. FAGNANT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

HAINES HWY PERMANANT TRAFFIC RECORDER

LOOP DETECTOR DETAILS

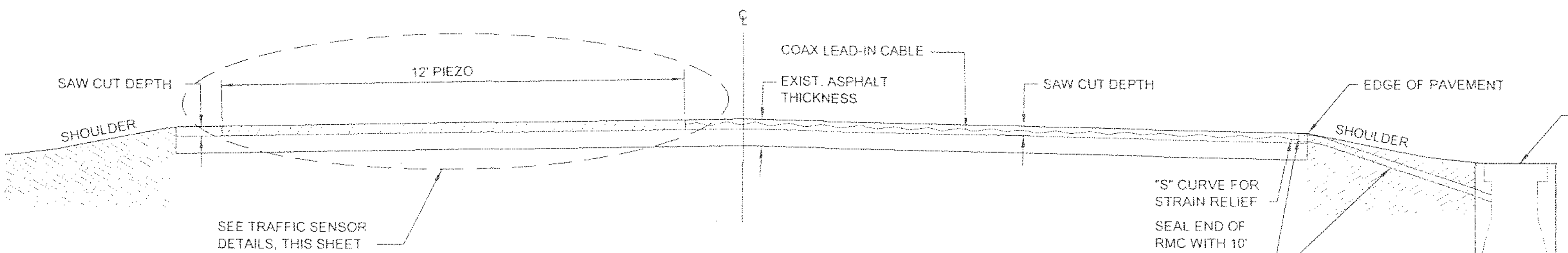
PROJECT DESIGNATION NUMBER	
NH-095-6(31) / 67778	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
Q2	36



TRAFFIC SENSOR DETAILS:

N.T.S.

NOTE:
THE TRAFFIC SENSOR (PIEZO) SHALL BE INSTALLED PER THE SPECIFICATIONS AND ONLY WHEN A PEEK MANUFACTURER'S REPRESENTATIVE IS PRESENT.



TRAFFIC SENSOR INSTALLATION DETAIL:

N.T.S.

NOTES:

1. FOR CLARITY, ONLY FAR LANE PIEZO DETAIL SHOWN. NEAR LANE PIEZO IS SIMILAR.
2. THE SLOT FOR THE PIEZO SENSOR SHALL BE CUT USING BLADES THAT ARE GANGED TOGETHER.
3. CLEAN THE SLOT WITH COMPRESSED AIR AND HIGH PRESSURE WATER PER THE MANUFACTURER'S INSTRUCTIONS.
4. THE SLOT SHALL BE CLEAN AND COMPLETELY DRY BEFORE INSTALLING THE PIEZO SENSOR.
5. AFTER INSTALLING THE PIEZO SENSOR, THE CONTRACTOR SHALL FOLLOW THE PIEZO MANUFACTURER'S RECOMMENDATIONS TO PROPERLY INSTALL THE GROUT

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

HAINES HIGHWAY PERMANANT
TRAFFIC RECORDER
NH-095-6(31) ~ 67778

PIEZOELECTRIC SENSOR DETAILS

CHECKED BY: C. MOREHOUSE

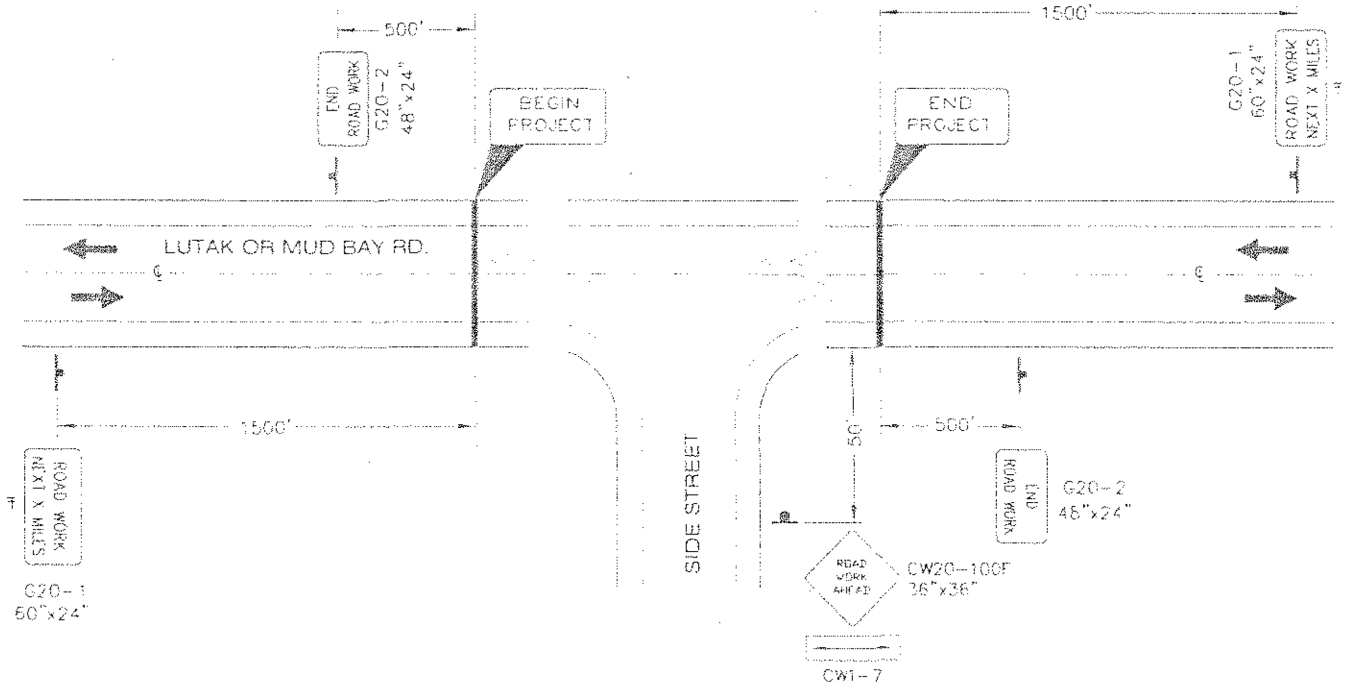
DESIGNED BY: D. FAGNANT
DRAWN BY: D. FAGNANT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

HAINES HWY PERMANANT
TRAFFIC RECORDER

PIEZOELECTRIC SENSOR DETAILS

PROJECT DESIGNATION NUMBER	
NH-095-6(31) / 67778	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
Q3	36



PERMANENT CONSTRUCTION SIGNING

\# LUTAK RD. = 4 MILES; MUD BAY RD. = 0.5 MILES; HAINES HIGWAY PTR = 0.5 MILES

NOTE: BEGIN PROJECT ON LUTAK RD. WILL AT STATION 270+80, AND END PROJECT WILL BE AT STATION 460+50.

Legend

- SIGN
- CONE
- DRUM
- TYPE III BARRICADE
- FLAGGING STATION

L= WS (45 MPH OR >)

$L = \frac{WS}{60}$ (40 MPH OR <)

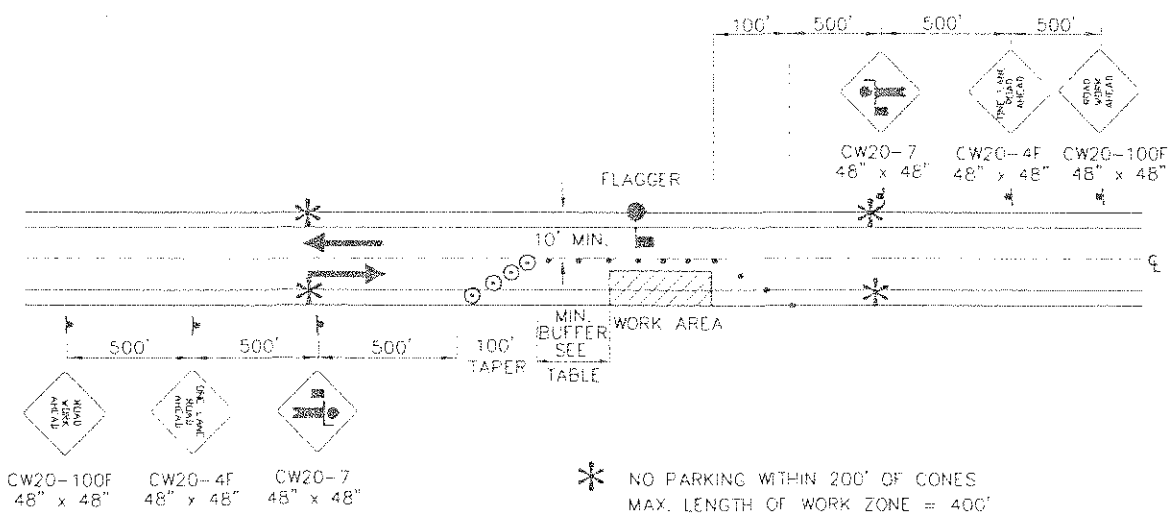
WHERE:
L= LENGTH OF TAPER (FT)
W= WIDTH OF OFFSET (FT)
S= SPEED (MPH)

TCP TABLE SETUP

SPEED (MILES PER HOUR)	BUFFER/ LENGTH (ft)	CONE/DRUM SPACING ON TAPER (ft)	CONE/DRUM SPACING ON TANGENT (ft)
25	155	25	50
30	200	30	60
35	250	35	70
40	305	40	80
45	360	45	90
50	425	50	100
55	495	55	110
60	570	60	120

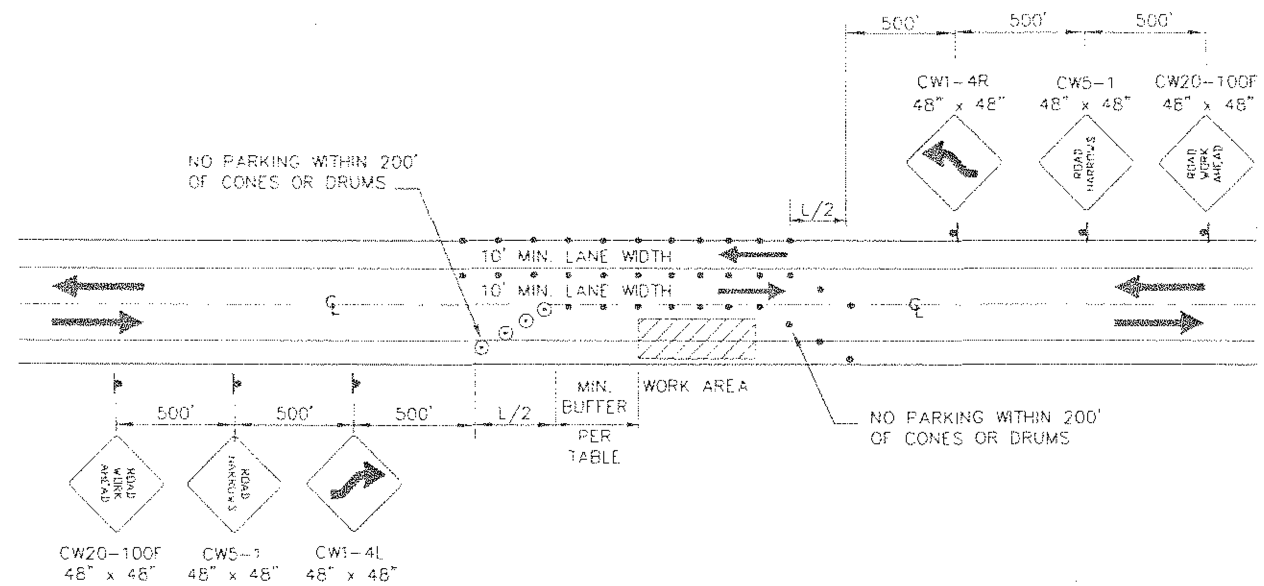
Traffic Control Notes:

1. A MINIMUM OF ONE LANE SHALL BE MAINTAINED AT ALL TIMES, THROUGH ALL WORK AREAS.
2. TWO LANES SHALL BE MAINTAINED AT ALL TIMES IN NON-WORK AREAS AND DURING NON-WORK HOURS, UNLESS AN APPROVED TRAFFIC CONTROL SIGNAL HAS BEEN INSTALLED.
3. TEMPORARY DRIVING LANES SHALL HAVE A MINIMUM WIDTH OF 10'-0".
4. CONSTRUCTION SIGNING SHALL BE IN PLACE ONLY WHEN THE CONDITIONS EXIST FOR WHICH THE SIGNS ARE INTENDED. CONSTRUCTION SIGNS SHALL BE PLACED SUCH THAT THEY DO NOT OBSCURE EXISTING TRAFFIC SIGNS
5. IT IS THE INTENT OF THIS TRAFFIC CONTROL PLAN (TCP) TO ILLUSTRATE SOME, NOT ALL, OF THE TRAFFIC CONTROL SETUPS WHICH WILL BE REQUIRED ON THIS PROJECT. PLANS FOR CONFIGURATIONS NOT COVERED BY THE TCP SHALL BE CREATED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. WHERE APPROPRIATE, THEY SHALL INCORPORATE APPLICABLE PORTIONS OF DETAILS ON THESE SHEETS
6. MAXIMUM LENGTH OF CONSTRUCTION WITH ONE-LANE ROAD CLOSURE IS 1000'.



TWO LANE ROAD - SINGLE LANE CLOSURE

Single Flagger
Allowed On Mud Bay Road Only



TWO-WAY TRAFFIC

* SEE NOTE 6, THIS SHEET.

ADDENDUM NUMBER
ATTACHMENT NUMBER
RECORD OF REVISIONS
No. | DATE | DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

Traffic Control Plans

DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

Traffic Control Plans

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
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ALASKA	2008
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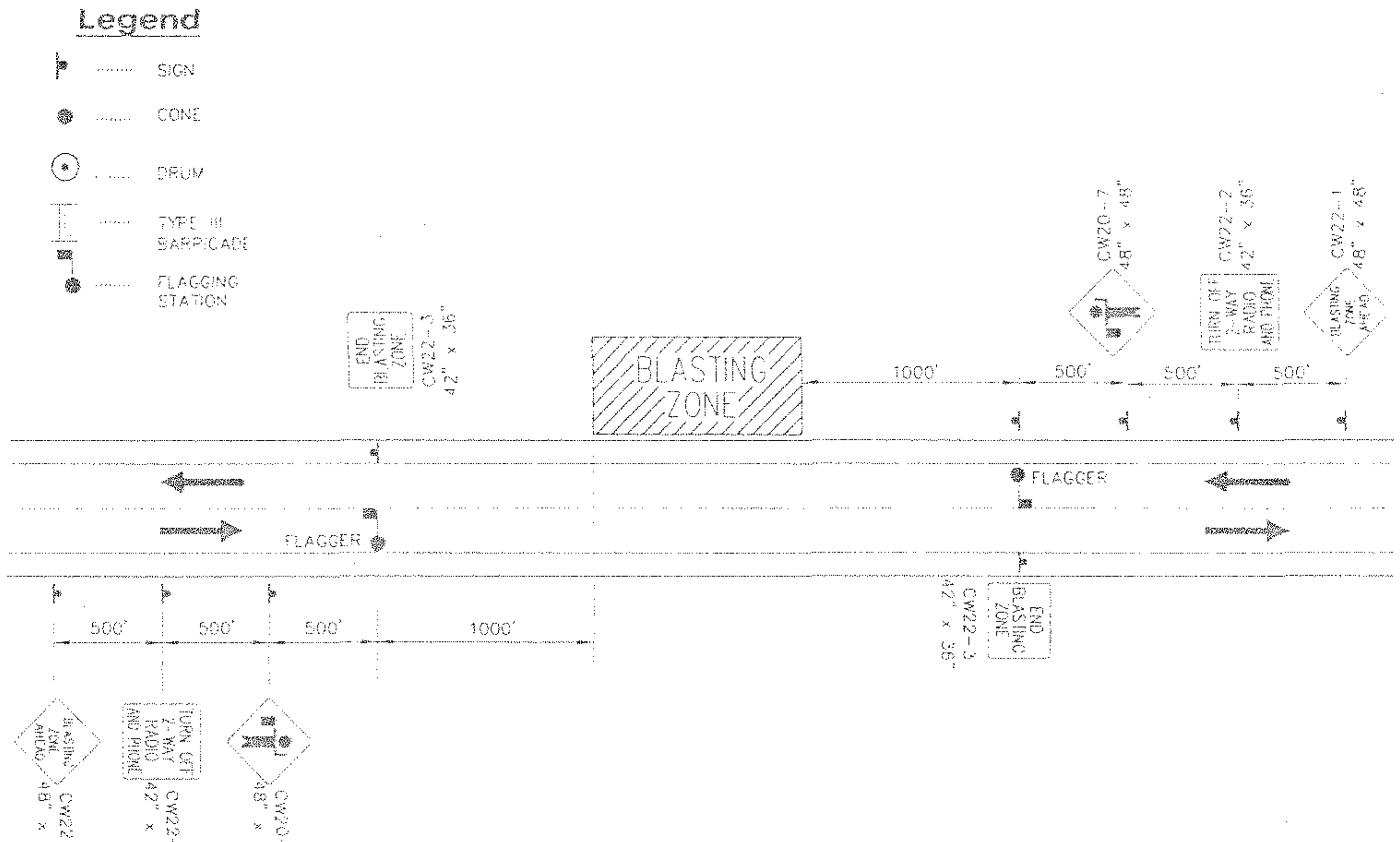
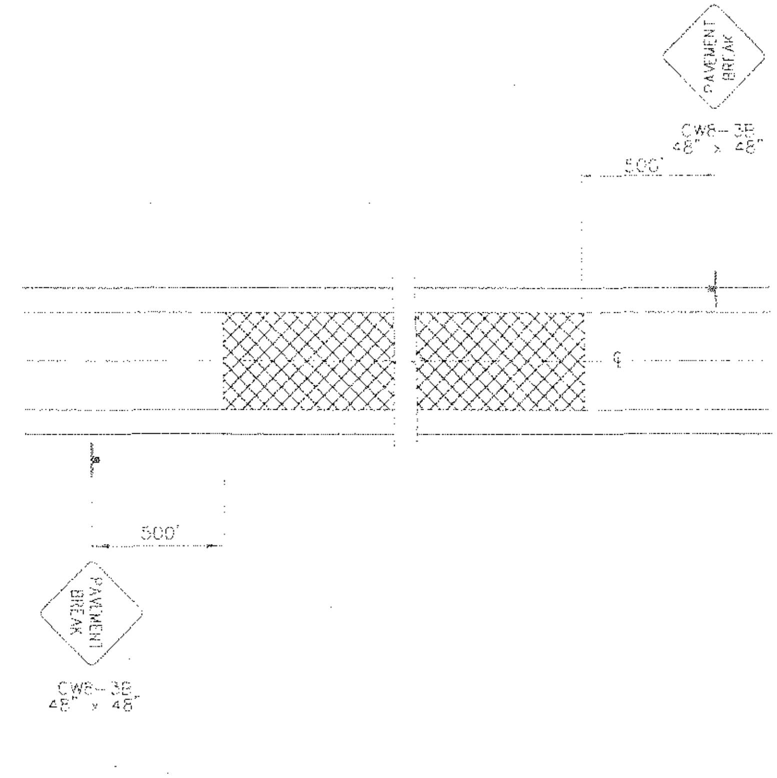
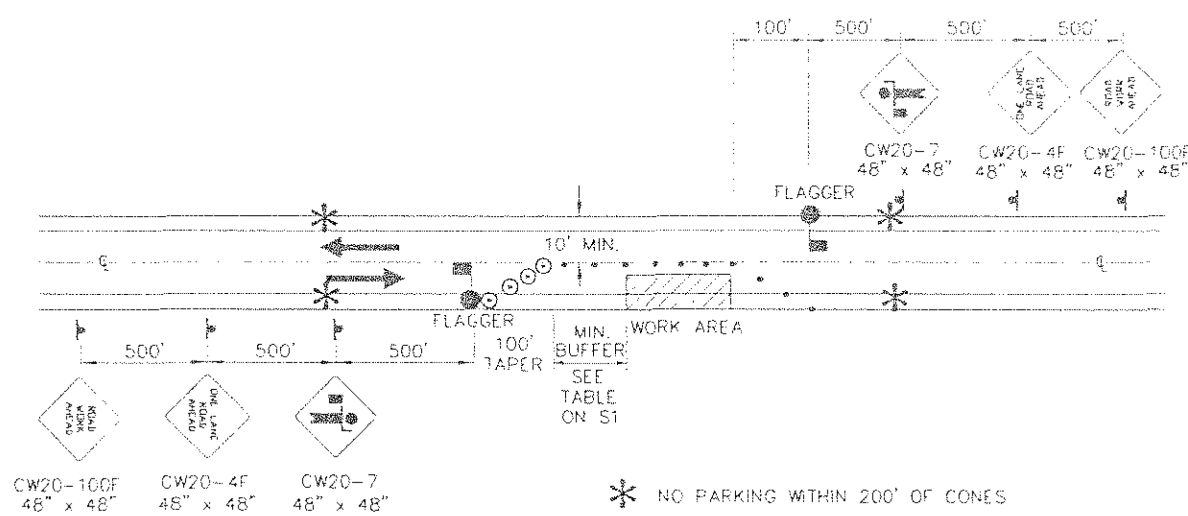
S1	36



TYPICAL BLASTING ZONE PLAN

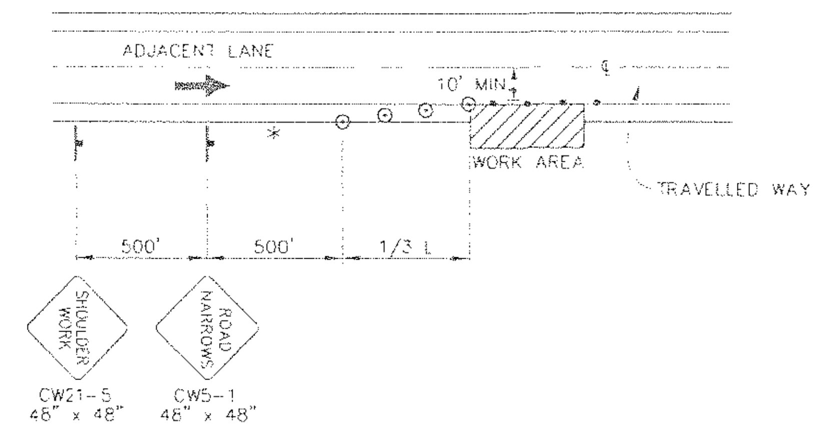


SIGNING FOR UNPAVED AREA



TWO LANE ROAD - SINGLE LANE CLOSURE

Double Flagger



SHOULDER WORK

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

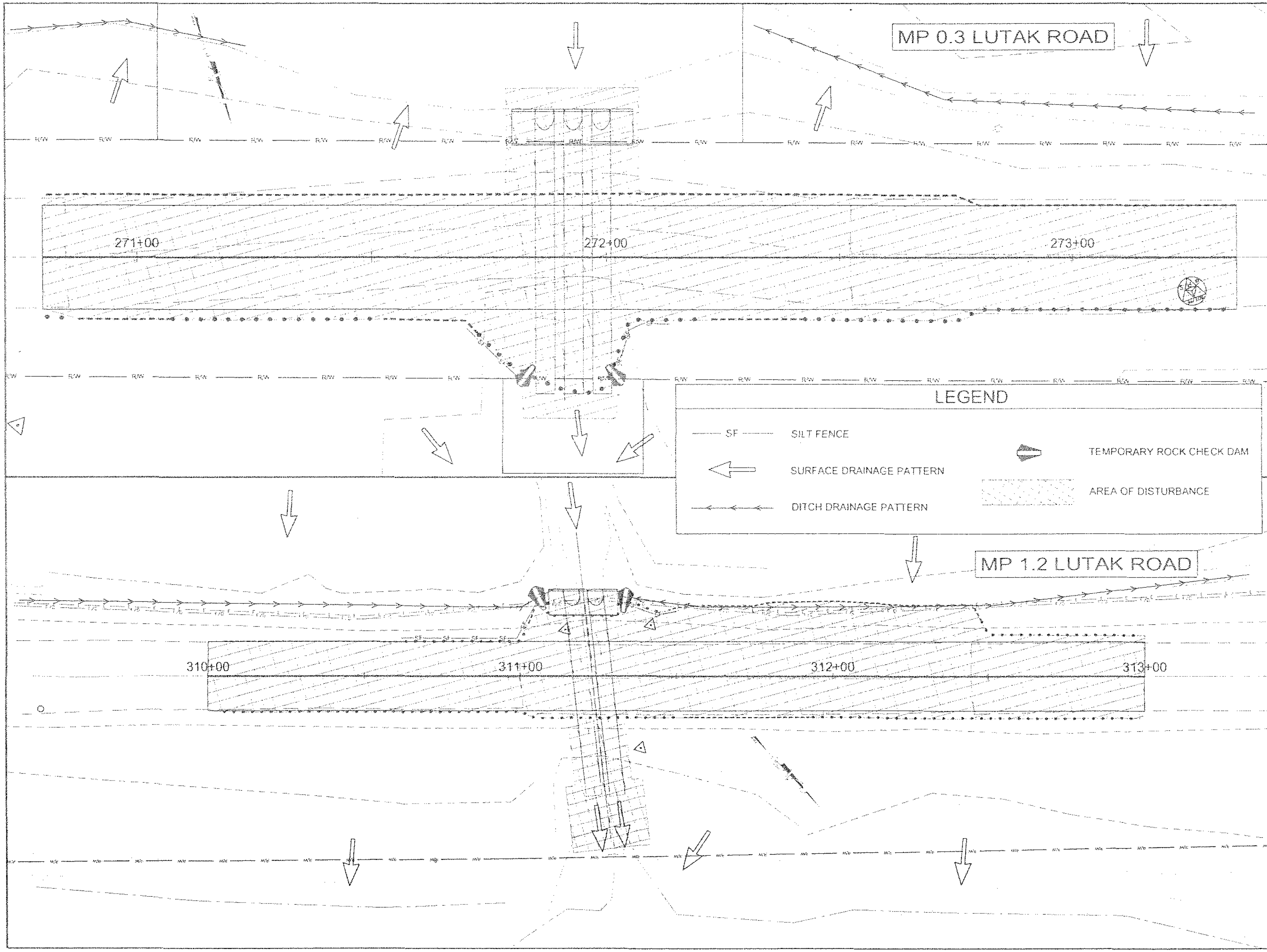
Traffic Control Plans

DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION
SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

Traffic Control Plans

PROJECT DESIGNATION NUMBER	
69236 / ER-0079(2)	
STATE	YEAR
ALASKA	2008
SHEET NUMBER	TOTAL SHEETS
S2	36



SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

EROSION AND SEDIMENT CONTROL PLANS

DESIGNED BY J. PETROPULOS
DRAWN BY D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

EROSION AND SEDIMENT CONTROL PLANS

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69236 / ER-0079(2)	
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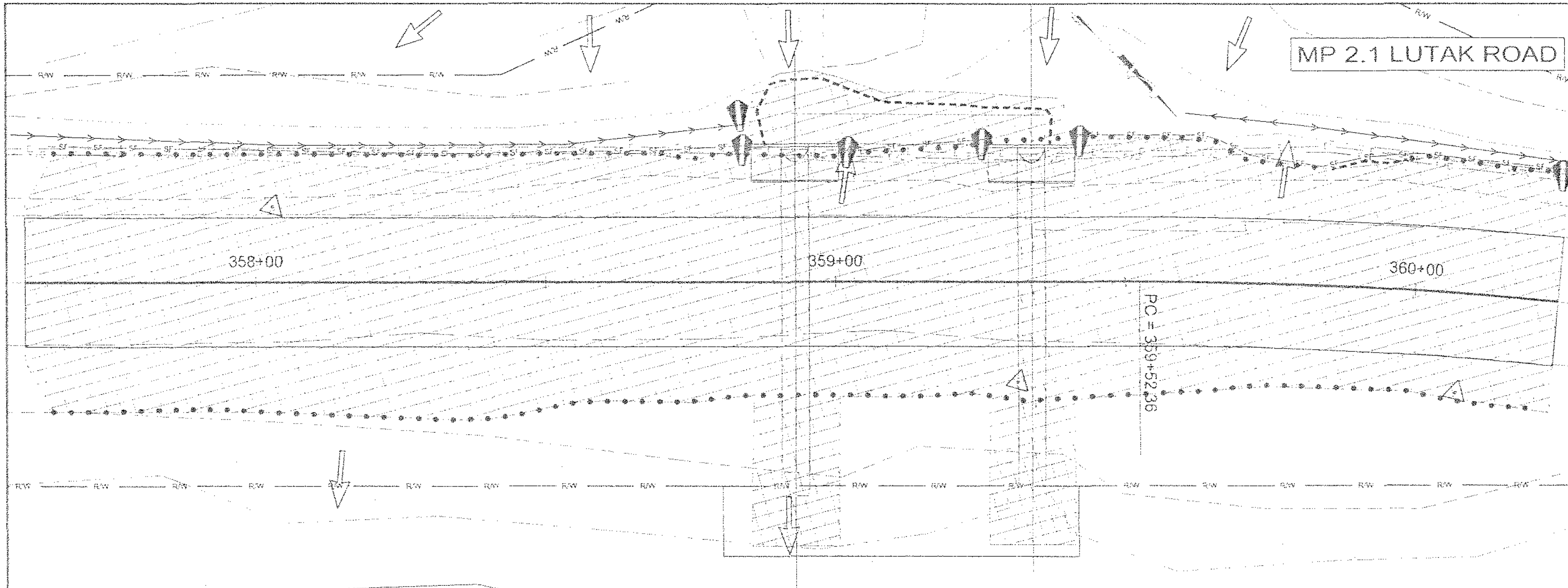
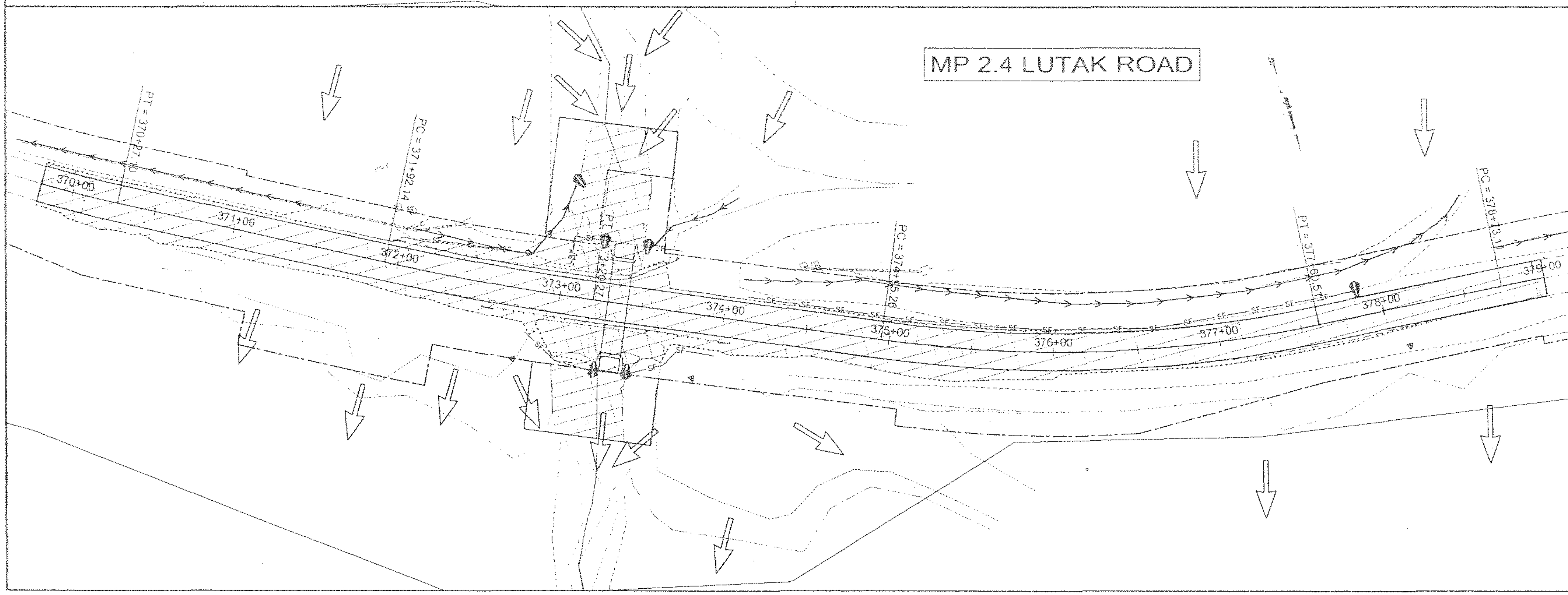
T1	36





SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

EROSION AND SEDIMENT CONTROL PLANS

ADDENDUM NUMBER

ATTACHMENT NUMBER

RECORD OF REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

EROSION AND SEDIMENT CONTROL PLANS

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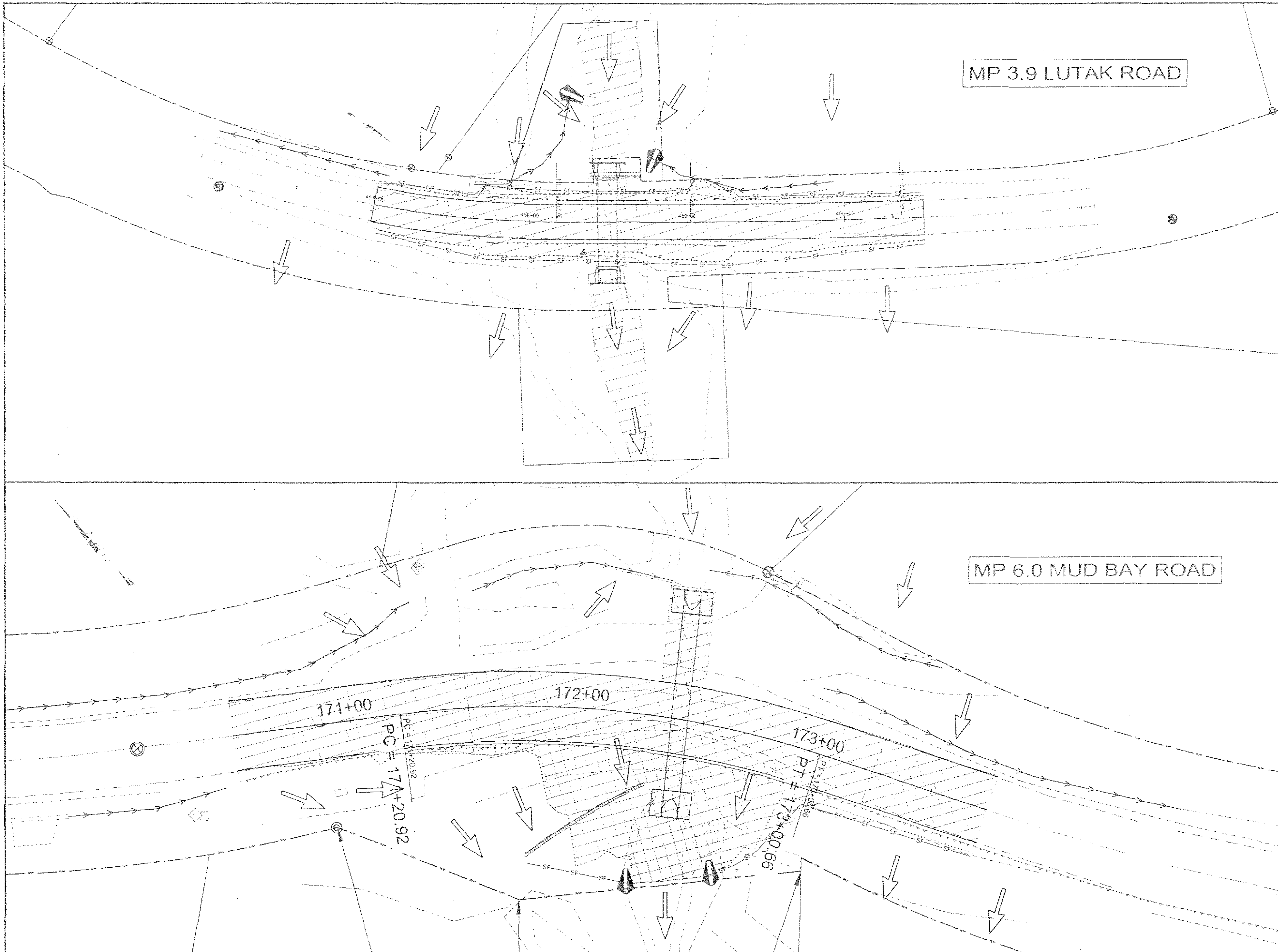

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69236 / ER-0079(2)

EROSION AND SEDIMENT CONTROL PLANS

DESIGNED BY: J. PETROPULOS
DRAWN BY: D. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

EROSION AND SEDIMENT CONTROL PLANS

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69236 / ER-0079(2)	
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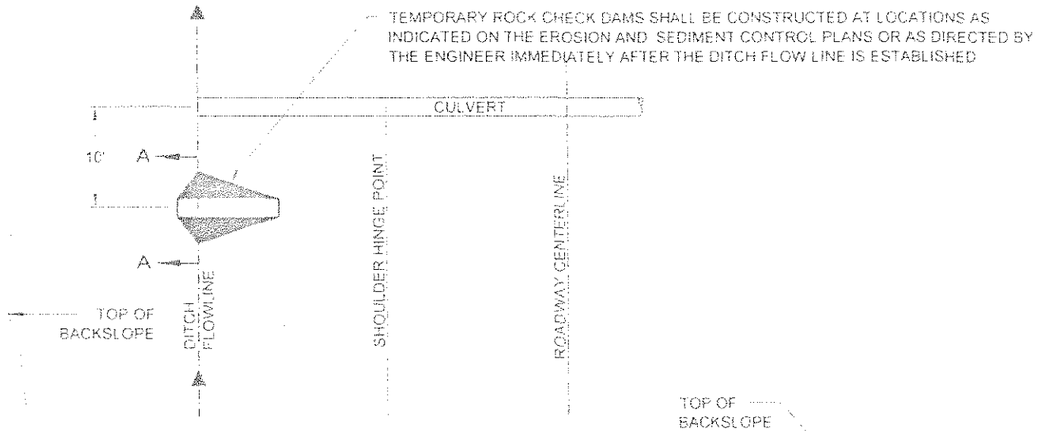
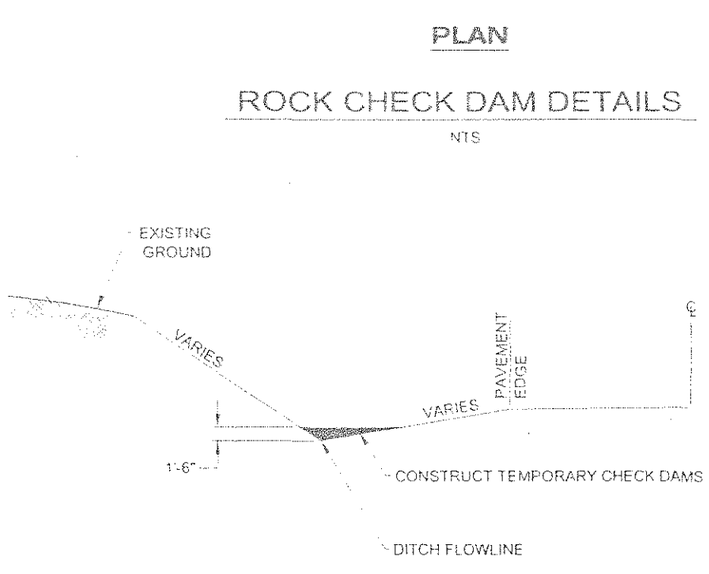
T3	36



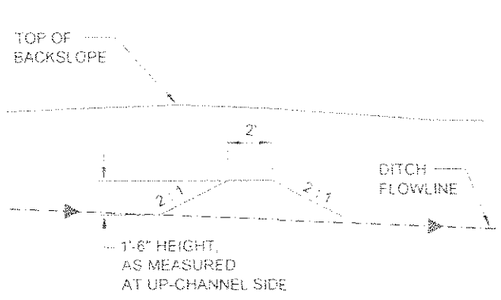
PLAN

ROCK CHECK DAM DETAILS

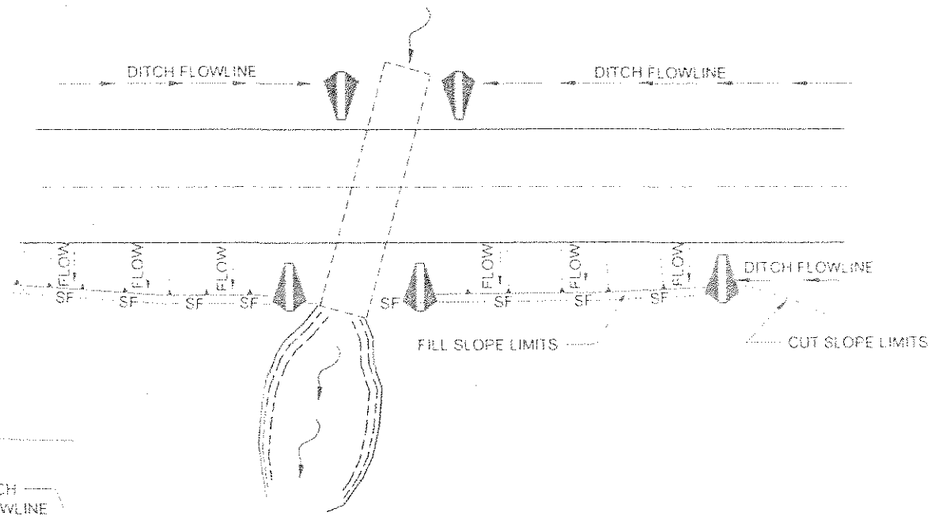
NTS



ELEVATION



SECTION A-A



TYPICAL INSTALLATION DETAILS

NTS

LEGEND

TEMPORARY ROCK CHECK DAM

SF — SILT FENCE

NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

PATH
ATTACHMENT NUMBER
ATTACHMENT NUMBER
SCHEME OF PRESENTATION
NO. DATE DESCRIPTION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS
69236 / ER-0079(2)

Erosion and Sediment Control Details

STATE OF ALASKA 49TH
James J. Petropulos
CE-11377
REGISTERED PROFESSIONAL ENGINEER
6 MAY 08

DESIGNED BY J. PETROPULOS
DRAWN BY S. STEVENS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
SOUTHEAST REGION

SEA NOVEMBER 2005
STORM PERMANENT REPAIRS

Erosion and Sediment Control Details

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