STATE OF ALASKA

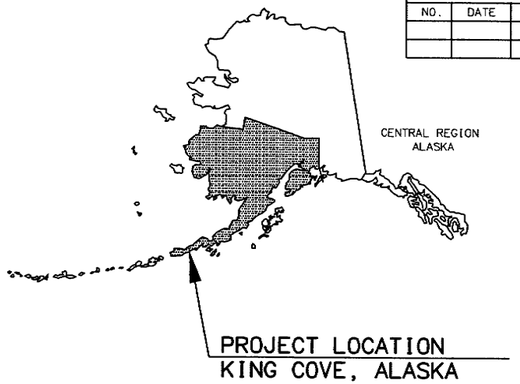
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

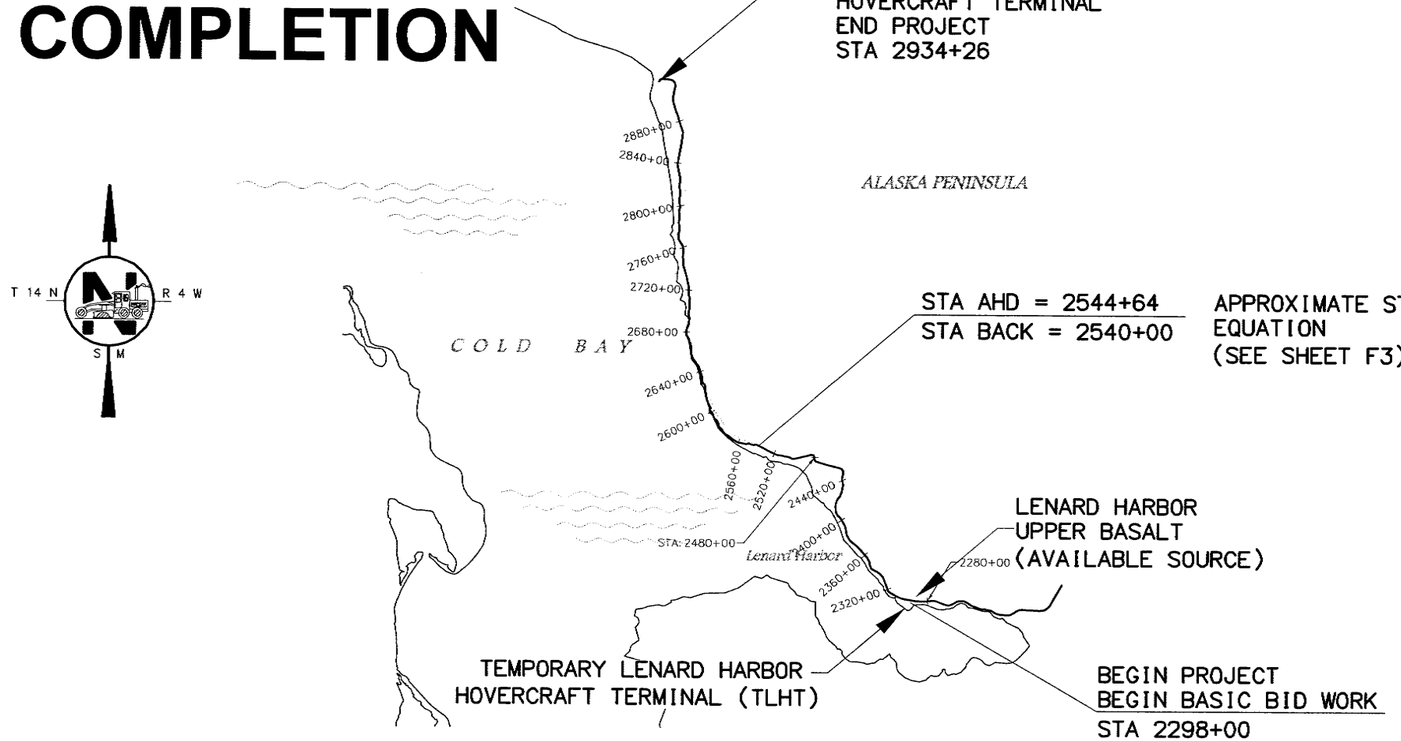
STP-0001(420)/59791
KING COVE ACCESS ROAD COMPLETION

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	A1	59



INDEX	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	LEGEND SHEET
A3-A5	SURVEY CONTROL SHEETS
B1-B2	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES
D1-D6	SUMMARY SHEETS
E1-E7	DETAIL SHEETS
F1-F12	PLAN AND PROFILE SHEETS
P1-P9	ESCP PLAN SHEETS
P10-P12	ESCP DETAIL SHEETS
T1-T9	SITE PLAN AND DETAILS
TE1-TE5	ELECTRICAL SHEETS



THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:

D-01.02	G-01.01	S-00.10
D-04.21	G-01.02	S-05.01
D-06.10	G-04.06S	
	G-10.01	

DESIGN DESIGNATION	
ADT 2010	<50
ADT 2020	<50
V.	20 MPH

PROJECT SUMMARY				
BEGIN STATION	END STATION	NAME	LENGTH (FT.)	SCOPE
2298+00	2540+00	EXISTING ROAD	24,200	RESURFACE - 6" AGGREGATE SURFACE COURSE, GRADING E-1
2544+64	2561+00	WASHOUT AREA	1,636	RECONSTRUCT / IMPROVE DRAINAGE / CONTROL EROSION
2561+00	2696+40	BEACH SEGMENT	13,540	CONSTRUCT NEW ROAD
2696+40	2778+00	PIONEER ROAD	8,160	CONSTRUCT NEW ROAD
2778+00	2914+00	PARTIALLY-GRADED ROAD	13,600	RECONSTRUCT EXISTING ROAD / RAISE GRADE
2914+00	2934+26	PARTIALLY-GRADED ROAD	2,026	RECONSTRUCT EXISTING ROAD / RAISE GRADE

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

PLANS DEVELOPED BY: USKH

STATE OF ALASKA 49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

APPROVED:

REGIONAL PRE-CONSTRUCTION ENGINEER DATE

CONCUR:

DIRECTOR, DESIGN & CONSTRUCTION DATE

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

CONSTRUCTION PROJECT MANAGER DATE

PLOT CTB:
PLOT SCALE:
PLOT VIEW:
DESIGNED BY
CHECKED BY
DRAFTED BY
XREF: I:\1172600\Data\CAD\Sheets\1172600-A1.dwg
SCALE 1=1
COMPUTER DESIGNATION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	A2	59

REVISIONS

No.	DATE	DESCRIPTION

	RECOVERED	THIS PROJECT TO BE SET
GOV'T SECTION CORNER	Sec. Cor.	
GOV'T 1/4 SECTION CORNER	1/4 Cor.	
GOV'T 1/16 SECTION CORNER	1/16 Cor.	
GOV'T SURVEY MONUMENT		
GOV'T CONTROL STA.		
PRIMARY MON. [BRASS/AL CAP]		
SECONDARY CORNER		
PRIMARY CENTERLINE MONUMENT		
SECONDARY CENTERLINE MONUMENT		
SURVEY CONTROL POINT	CP	
SECONDARY SURVEY CONT. POINT	SCP	
GPS CONTROL POINT	GPS	
BENCH MARK	BM	
TEMPORARY BENCH MARK	TBM	
ROCK MONUMENT		
DELINEATOR (FACING ——►)		

INTERNATIONAL BOUNDARY LINE — ALASKA / CANADA
TOWNSHIP & RANGE LINE — T. 13 N. / T. 12 N.; R. 2 W. / R. 3 W.
SECTION LINE
1/4 SECTION LINE
1/16 SECTION LINE
CORPORATE or CITY LIMITS
EXISTING RIGHT-OF-WAY
RIGHT-OF-WAY REQUIRED
PROJECT RIGHT-OF-WAY LINE — R/W
EXISTING PROPERTY LINE
CONTROLLED ACCESS LINE — C/A
PERMIT LINE
EXISTING EASEMENT LINE
STATION EQUATION — STA. 14+33.22 BK. = STA. 16+90.17 AHD.
PROJECT CENTERLINE — 27+00
EXISTING CENTERLINE
RAILROAD CENTERLINE
HIGHWAY MILEPOST — 6.5; 23+12.56
RAILROAD MILEPOST — R.R. 2580+60 / HWY. 126+33; 842
UTILITY POT HOLE
TELEPHONE MANHOLE — T.M.H.

TCP
BUMPER CURB
REMOVAL OF PAVEMENT
ROADWAY OBLITERATION
LIMIT OF CUT SLOPE
LIMIT OF FILL SLOPE
PROPOSED ROADWAY
EXISTING ROADWAY
NOISE BARRIER
FENCE
STONE FENCE
HEAD & WINGWALLS
GUARD RAIL EXISTING
PROPOSED
RETAINING WALL
TUNNEL
INTERMITTENT DRAINAGE
INTERCEPTOR DITCH
MARSHLAND
CREEK
RIVER
LAKE — LAKE
RESERVOIR — RES.
CHANNEL CHANGE
SHORELINE
PLANTER — PLANTER
VENT
TANK VENT
WELL — WELL
SEPTIC — SEPTIC
TANKS
Above Ground
Below Ground
SATELLITE DISH
PRIVATE SIGN
GAS PUMP — GAS PUMP
POST
BOULDER OR BOULDERS
LANDSCAPE LIGHT
DECIDUOUS TREE
CONIFER TREE
SHRUB OR SHRUBS

	EXISTING	PROPOSED
PIPELINES:		
SANITARY SEWER	SS	SS
OIL	O	O
GAS	G	G
WATER	W	W
STORM DRAIN	SD	SD
SIDEWALK		
CONCRETE CURB		
CONCRETE CURB & GUTTER		
DRIVEWAY, APPROACH, & SIDEDRAIN		
BRIDGE		
RIPRAP		

		EXISTING
TELEPHONE	(OVERHEAD)	OHT
	(DIRECT BURY)	UT
ELECTRIC	(OVERHEAD)	OHE
	(DIRECT BURY)	UE
FIBER OPTIC		FO
U.G. CABLE		TV
U.G. DUCT		
TELEPHONE MANHOLE		
ELECTRIC MANHOLE		
FOUNDATION		
BUILDING		

	EXISTING	PROPOSED
MANHOLE	M.H.	M.H.
TYPE I INLET MANHOLE		
TYPE II INLET MANHOLE		
TYPE III INLET MANHOLE		
TYPE A INLET MANHOLE		
FIRE HYDRANT		
METER		
VALVE		
PIPE CULVERT w/ END SECT.		
UTILITY POLE		
ELECTROLIER		

	EXISTING	PROPOSED
UTILITY POLE WITH LUMINAIRE		
POLE ANCHOR /w GUY		
TRANSMISSION TOWER [WOOD]		
TRANSMISSION TOWER [STEEL]		
ELECTRICAL OUTLET		
ELECTRICAL PEDESTAL		
TELEPHONE PEDESTAL		
CABLE T.V. PEDESTAL		
MAILBOX		MB
SIGN (FACING ——►)		
DELINEATOR GUIDE MARKER (FACING ——►)		
SIGNAL FACE, VEHICULAR		
SIGNAL FACE, BACKPLATE		
SIGNAL FACE, LEFT TURN, BACKPLATE		
SIGNAL FACE, PEDESTRIAN		
JUNCTION BOX, TYPE I	8	8
JUNCTION BOX, TYPE II	5	5
JUNCTION BOX, TYPE III	3	3
DETECTOR, LOOP	4	4
DETECTOR, MAGNETOMETER		
DETECTOR, RADAR	R	R
DETECTOR, SONIC	S	S
DETECTOR, OPTICOM		
DETECTOR, PUSH BUTTON (DIRECTION ——►)	5	5
SIGNAL CONTROLLER		
LOAD CENTER		
SIGNAL POLE	2	4
SIGNAL POLE w/MASTARM	3	5

FOR STRIPING PLANS:

SOLID WHITE STRIPE — W
SOLID YELLOW STRIPE — Y
BROKEN WHITE or YELLOW STRIPE — W, Y
DASH YELLOW STRIPE — Y
SOLID YELLOW STRIPE WITH BROKEN YELLOW STRIPE — Y

STATE OF ALASKA · 49th · REGISTERED PROFESSIONAL ENGINEER · Steven M. Karl · No. CE 9203

PLANS DEVELOPED BY:
USKH INC.

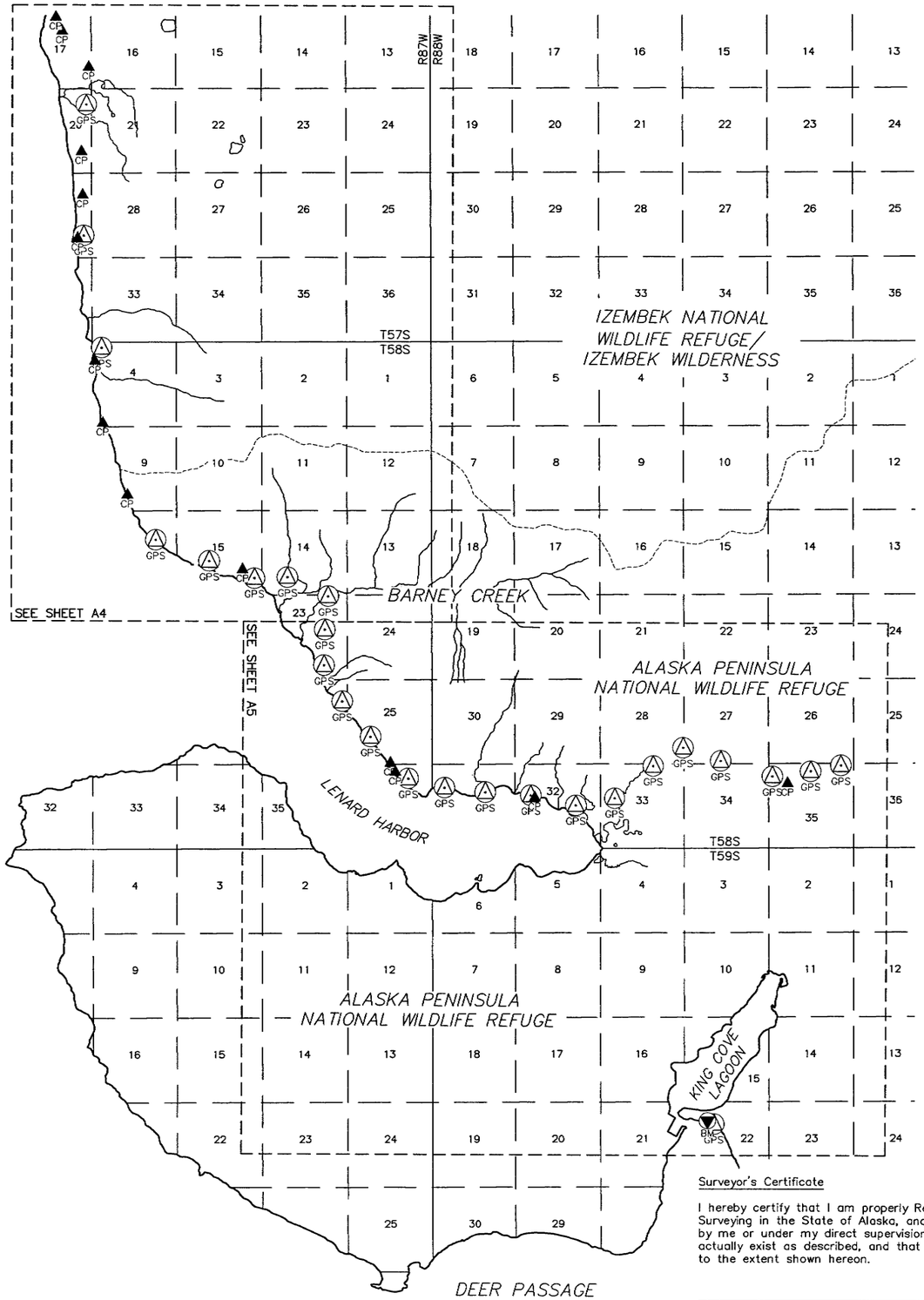
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

LEGEND

Plotted by: kblair   Plotted: Aug 26, 2010 . 11:05am
DESIGNED BY / CHECKED BY / DRAFTED BY — Aug 26, 2010
CTB: / PLOT SCALE: 1 / VIEW=
XREFS: / I:\1177500\Dwgs\C\Sheets\1177500-A2.dwg
SCALE 1= / COMPUTER DESIGNATION

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	A3	59



HORIZONTAL CONTROL STATEMENT

Coordinate System:
This project is located entirely within a U.S. Foot local ground coordinate system developed in 2000 by McClintock Land Associates (MLA) for the Aleutians East Borough. The MLA local system was created using multiple azimuthal projections centered on points occupied by MLA as RTK base stations. In order to match the existing MLA system using a single and repeatable project-wide coordinate system, a best-fit transverse mercator projection was developed by USKH for this project and archived as "1177500-SITE-MLLW-G09.CSW". The transverse mercator parameters are as follows;

Projection Type: Transverse Mercator
Reference Ellipsoid: WGS 1984
Origin Latitude: 55°15'12.23304"N
Origin Longitude: 162°44'17.49030"W
Origin Height Above Ellipsoid: 0
False Northing: 100000.000
False Easting: 100000.000
Scale Factor: 1.00000000

Best-Fit Calibration to MLA Local System:
Base Point: 70915.199N, 153782.046E
Rotation: -0°00'00.286553"
Scale: 0.99999719
Translation North: 0.116
Translation East: -0.065

The local ground coordinate system is related to NAD83(1986) Alaska State Plane Zone 7 using the following transformation parameters;

To convert from the Local System to NAD83(86) Alaska State Plane Zone 7 in U.S. Survey Feet:
1) Scale about 77845.821N, 150203.347E by 0.99990499
2) Rotate about 77845.821N, 150203.347E by +00°36'21.06" (clockwise)
3) Translate by +357996.1319N, +1386184.1955E

To convert from NAD83(86) Alaska State Plane Zone 7 to the Local System in U.S. Survey Feet:
1) Translate by -357996.1319N, -1386184.1955E
2) Rotate about 77845.821N, 150203.347E by -00°36'21.06" (counter-clockwise)
1) Scale about 77845.821N, 150203.347E by 1.00009502

Basis of Coordinates:
This survey was adjusted holding the record NAD83(1986) positions of thirteen recovered MLA geodetic control points fixed in Latitude/Longitude: CP#'s 55, 65, 68, 71, 74, 79, 82, 83, 84, 88, 91, 93 and 95. The original MLA geodetic adjustment was performed holding the published position of NGS Station "FA 49" (PID: ΨW1162) also being CP# 1 fixed as 55°15'12.23304"N, 162°44'17.49030W. USKH verified the recovered MLA geodetic control positions using a similar a minimally-constrained adjustment prior to performing a full-constrained horizontal adjustment.

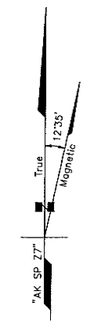
Basis of Bearings:
The MLA system uses GPS derived True North at NGS station "FA 49" as the bearing basis. USKH has perpetuated this bearing basis using a best-fit calibration to existing MLA control.

VERTICAL CONTROL STATEMENT

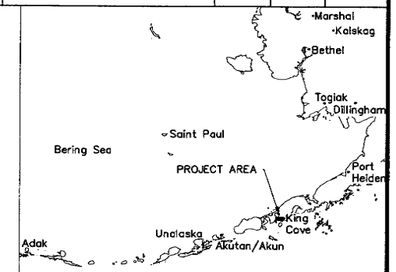
Vertical Datum:
The vertical datum is MLLW in U.S. Survey Feet established by USKH holding NOS Tidal Benchmark "NO 10 1964" as 16.076'. The tidal benchmark list referenced is NOAA/NOS Station# 9459881, King Cove, Deer Passage, Pacific Ocean, Pub. Date 07/31/2007.

Methodology:
3rd order differential leveling was used to propagate MLLW from tidal BM "NO 10 1964" to CP# 601. GEOID09AK without deflections was then used to propagate MLLW across Lenard Harbor from the CP# 601 to CP# 213. 3rd order differential leveling was then used to propagate MLLW from CP# 213 throughout the remainder of project control. CP# 213 was chosen due to its centralized location and because holding the GPS derived MLLW elevation for CP# 213 fixed in the leveling adjustment yielded a mean residual (bias) of 0.00' with RMSE of 0.10' between adjusted leveling results and GPS derived MLLW elevations at 30 project control points. The RMSE between leveling and GPS derived elevations did not improve significantly when deflections were applied using leveling constraints, thus indicating that non-deflected GEOID09AK performs well throughout the project and should be adequate for propagating MLLW with GPS where spirit leveling is not feasible. All elevations shown herein are based on third order differential leveling using said methodology unless otherwise noted.

Previous Vertical Datum:
The vertical datum established by MLA in 2000 was ellipsoidal only and was not relative to gravity. There is no single conversion between Mean Lower Low Water (MLLW) and the previous MLA vertical datum because the separation between gravity (sea level) and the ellipsoid varies by approximately 5' throughout this project (the relationship has a broad-based tilt with variable undulations). USKH undertook the task of changing the vertical datum to MLLW due to leveling measurements that were not previously available, the availability of a modern high-accuracy GEOID model, and due to the critical determination of the 85% high tide level relative to MLLW used as the basis for wave runup estimates that have been used to assign a safe design elevation for the beach run segment of the access road. USKH used 5 years of verified NOS tide data records from the King Cove Tide Station# 9459881 to compute an 85% high tide relative to MLLW. The resulting 85% high tide water level relative to MLLW is 7.9'.



Declination is 12°35' E. per NOAA February 15, 2010.



VICINITY MAP

ALEUTIAN ISLANDS RECORDING DISTRICT
1" = 300 MILES

4000 0 2000 4000 8000 12000 16000 20000

U.S. SURVEY FEET
1"=4000'

NOTES

1. Horizontal control points shown on this plat were surveyed using networked static GPS techniques. Static GPS measurements were performed using four Trimble R8 Model 2 GNSS receivers and three Trimble 5700 dual-frequency receivers and processed using Trimble Geomatics Office v1.63 software.
2. Elevations shown on this plat were established via Third-Order differential leveling using a Trimble DINI digital autolevel and a Leica DNA digital autolevel unless otherwise noted. Not all level networks were tied together. See vertical control methodology for details. Leveling measurements were adjusted using Star*Net v6.0.31 software.
3. Property information shown herein is provided for informational purposes only and may not reflect legal property line locations. Other background information shown herein was gathered from topographic ground survey data or from USGS topographic maps.
4. The field survey was completed during November-December, 2009 and February 2010 by USKH Inc.
5. All dimensions and coordinates shown are in U.S. Survey Feet.
6. All Geographic coordinates shown are NAD83(1986). Note that there is a difference of several feet between NAD83(86) and NAD83(CORS) at this location.

CONTROL SYMBOLS LEGEND

- CP — RECOVERED CONTROL
- BM — RECOVERED TIDAL BENCHMARK
- GPS — SET PROJECT CONTROL
- ### — POINT NUMBER IDENTIFIER
- BOUNDARY OF IZEMBEK & AK PENINSULA

Surveyor's Certificate

I hereby certify that I am properly Registered and Licensed to practice Land Surveying in the State of Alaska, and that this drawing represents a survey made by me or under my direct supervision, and that the monuments shown hereon actually exist as described, and that all dimensions and other details are correct to the extent shown hereon.

Jacob M. Gerondale LS-11758 Date

STATE OF ALASKA 49TH
Jacob M. Gerondale
LS-11758
REGISTERED PROFESSIONAL LAND SURVEYOR

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

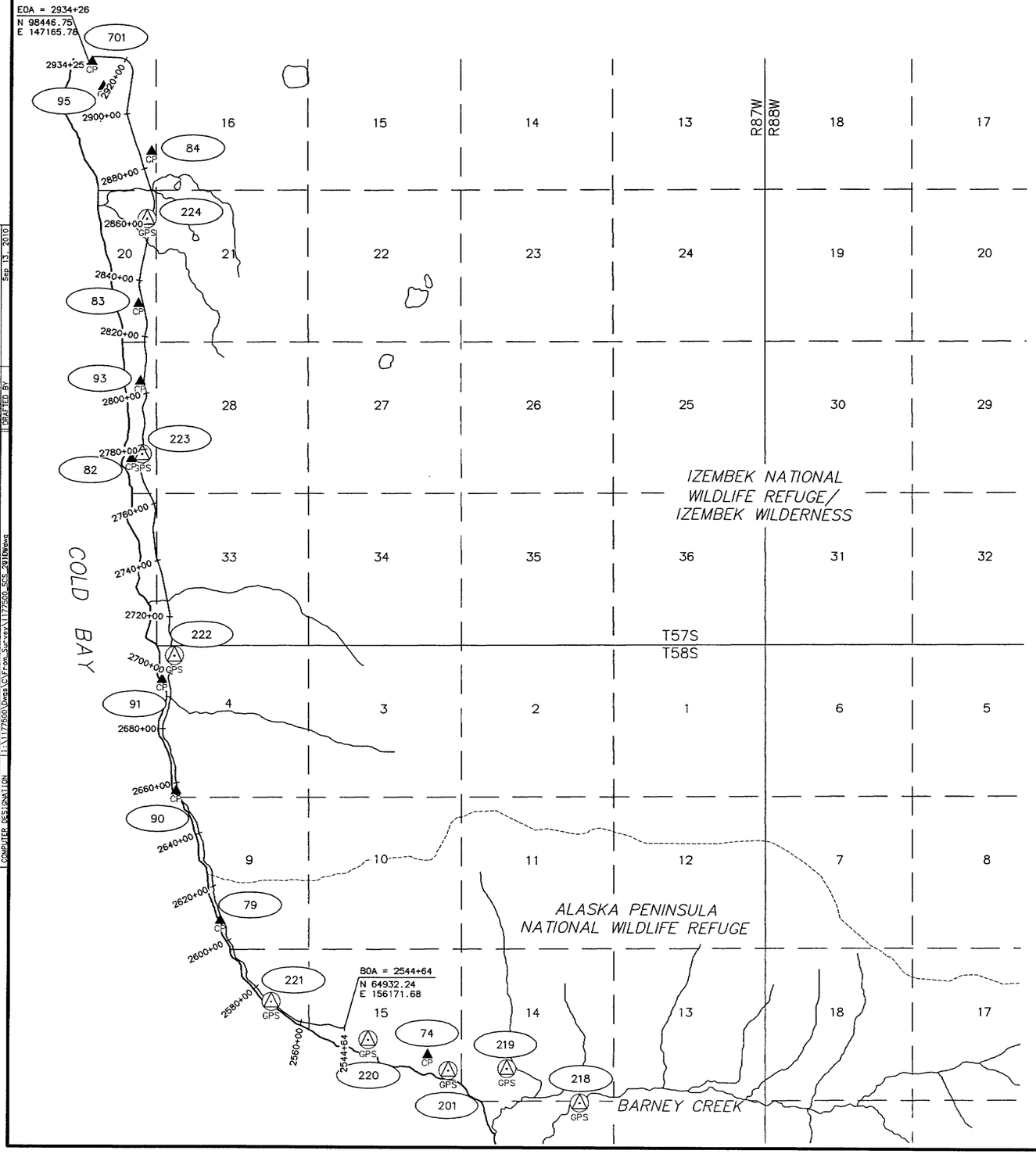
KING COVE ACCESS ROAD COMPLETION

SURVEY CONTROL

Plotted by: chakari Plotted: Sep 13, 2010 , 11:00am

	DESIGNED BY		Sep 13, 2010
CTB:	CHECKED BY		
PLOT SCALE: 1	DRAFTED BY		
XREFS:			
SCALE 1=			
COMPUTER DESIGNATION	I:\1177500\Dwgs\CS\From_Survey\1177500_SCS_2010.dwg		

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	A4	59



74
HV-15
MLA
S-8856
2000
FOUND 2" ALUMINUM WASHER ON PK NAIL IN ROCK GOOD CONDITION

79
HV-19
MLA
S-8856
2000
FOUND 1 1/2" ALUMINUM WASHER ON MAG NAIL IN ROCK GOOD CONDITION

82
HV-25
MLA
S-8856
2000
FOUND 1 1/2" ALUMINUM WASHER ON MAG NAIL IN ROCK GOOD CONDITION

83
KCCBR
HV-27
2000
LS8856
M.A.
FOUND 3 1/4" ALUMINUM CAP FLUSH WITH GROUND GOOD CONDITION

84
HV-29
S-8856
2000
MLA
FOUND 1 1/2" ALUMINUM WASHER ON MAG NAIL IN ROCK GOOD CONDITION

90
HV-20
MLA
S-8856
2000
FOUND 2" ALUMINUM WASHER ON MAG NAIL IN ROCK GOOD CONDITION

91
KCCBR
HV-22
LS8856
2000
M.A.
FOUND 3" BRASS CAP IN ROCK GOOD CONDITION

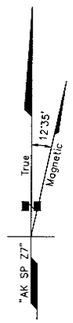
93
KCCBR
HV-26
2000
LS8856
M.A.
FOUND 3 1/4" ALUMINUM CAP FLUSH WITH GROUND GOOD CONDITION

95
2000
S-8856
HV-30
MLA
FOUND 1 1/2" ALUMINUM WASHER ON MAG NAIL IN ROCK GOOD CONDITION

201-222
USKH
CP + ###
2009
SET 2" BRASS OR ALUMINUM TABLET IN DRILL HOLE FILLED WITH EPOXY MAG AT BASE OF STEM

701
KCCBR
WC
HOVER SITE2
WD=40
LS8856
2000
FOUND 3 1/4" ALUMINUM CAP FLUSH WITH GROUND GOOD CONDITION

223-224
USKH
CP • ###
2010
SET 2 1/2" ALUMINUM CAP ON 5/8" X 30" REBAR FLUSH WITH GROUND



Declination is 12°35' E. per NOAA
February 15, 2010.

2000 0 1000 2000 4000 6000 8000 10000
U.S. SURVEY FEET
1"=2000'

SURVEY CONTROL

POINT	NORTHING	EASTING	ELEVATION	STATION	OFFSET	DESCRIPTION
74	64014.60	159043.04	209.89	———	———	Fd 2" Alum Washer on PK Nail [MLA] : HV-15 2000
79	68637.30	151853.89	3.98	2607+77.90	33.31 L	Fd 1 1/2" Alum Washer on Mag Nail [MLA] : HV-19 2000
82	84678.89	148670.31	84.23	2774+27.81	458.37 L	Fd 1 1/2" Alum Washer on Mag Nail [MLA] : HV-25 2000
83	90088.89	148897.04	142.39	2832+15.30	155.09 L	Fd 3 1/4" AC [MLA] : KCCBR HV-27 2000
84	95379.92	149334.05	133.55	2885+01.18	421.11 R	Fd 1 1/2" Alum Washer on Mag Nail [MLA] : HV-29 2000
90	73136.63	150291.75	7.10	2657+20.61	20.84 L	Fd 2" Alum Washer on Mag Nail [MLA] : HV-20 2000
91	77016.25	149776.94	7.90	2697+98.28	217.34 L	Fd 3" BC [MLA] : HV-22 2000
93	87380.86	148976.26	114.72	2804+39.41	126.67 L	Fd 3 1/4" AC [MLA] : KCCBR HV-26 2000
95	97635.49	147658.34	114.25	2908+23.89	925.84 L	Fd 1 1/2" Alum Washer on Mag Nail [MLA] : HV-30 2000
201	63465.54	159768.19	151.68	———	———	Set 2" Brass Tablet [USKH] : CP 201 2009
218	62352.50	164346.14	57.56	———	———	Set 2" Alum Tablet [USKH] : CP 218 2009
219	63534.84	161819.60	125.24	———	———	Set 2" Brass Tablet [USKH] : CP 219 2009
220	64525.22	156982.84	173.46	———	———	Set 2" Alum Tablet [USKH] : CP 220 2009
221	65836.99	153639.52	25.07	2572+54.46	39.73 R	Set 2" Brass Tablet [USKH] : CP 221 2009
222	77845.82	150203.35	154.47	2706+17.60	115.50 R	Set 2" Brass Tablet [USKH] : CP 222 2009
223	84846.73	149053.67	121.83	2778+55.59	69.43 L	Set 2 1/2" Alum Cap [USKH] : CP 223 2010
224	93037.82	149186.89	116.37	2861+55.25	91.17 L	Set 2 1/2" Alum Cap [USKH] : CP 224 2010
701	98498.45	147263.75	29.82	2933+24.99	94.55 L	Fd 3 1/4" AC [LS8856] : KCCBR WC HOVER SITE2 WD=40 2000

STATE OF ALASKA
49 TH
Jacob M. Gerondale
LS-11758
REGISTERED PROFESSIONAL LAND SURVEYOR

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SURVEY CONTROL

Plotted by: chakori Plotted: Sep 13, 2010 , 11:00am
CTB: PLOT SCALE: 1
SCALE: 1=
COMPUTER DESIGNATION I:\A1177500\Dwgs\C\From Survey\A1177500_SCS_2010.dwg
XREFS:
DESIGNED BY
CHECKED BY
DRAFTED BY
Sep 13, 2010

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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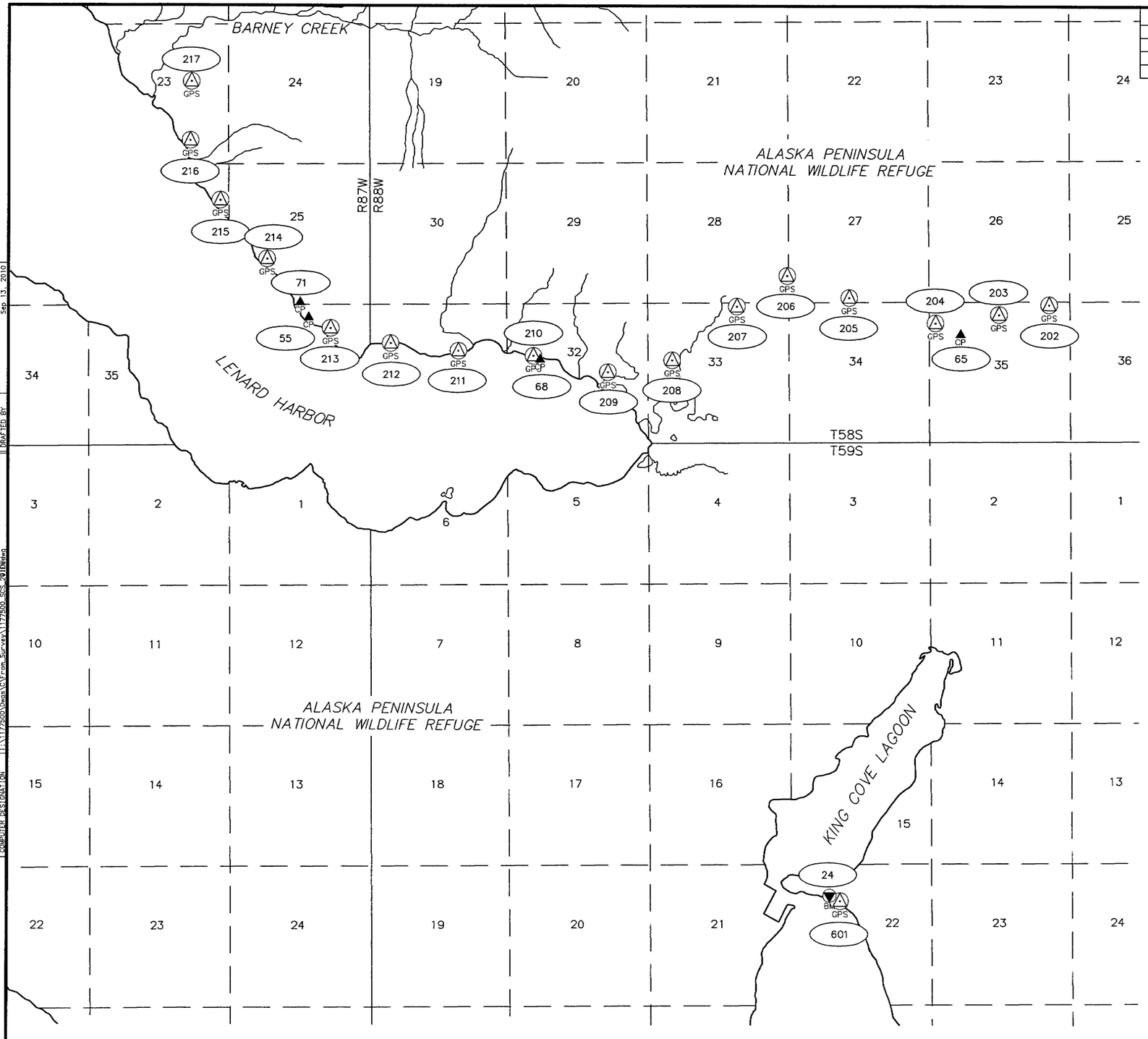
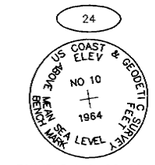
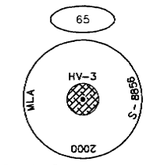


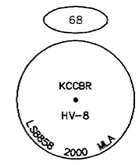
SURVEY CONTROL				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
24	———	———	16.08	Fd 3 1/2" BC [USGS]: BM-10 1964
55	51407.87	168561.93	37.02	Fd 1/2" Metal Rod [NGS]: TRI-STATION "CUT"
65	50801.28	193039.88	99.72	Fd 2" Alum Washer on Mag Nail [MLA] : HV-3 2000
68	49844.14	177255.90	35.70	Fd 3" BC [MLA] : HV-8 2000
71	51975.14	168250.16	64.03	Fd 2" Alum Washer on Mag Nail [MLA] : HV-11 2000
202	51916.29	196344.36	177.85	Set 2" Brass Tablet [USKH] : CP 202 2009
203	51549.67	194462.39	143.66	Set 2" Alum Tablet [USKH] : CP 203 2009
204	51229.04	192089.78	93.24	Set 2" Brass Tablet [USKH] : CP 204 2009
205	52179.08	188848.76	73.44	Set 2" Alum Tablet [USKH] : CP 205 2009
206	53000.43	186504.14	66.80	Set 2" Alum Tablet [USKH] : CP 206 2009
207	51843.21	184625.58	62.19	Set 2" Brass Tablet [USKH] : CP 207 2009
208	49820.09	182210.85	9.17	Set 2" Brass Tablet [USKH] : CP 208 2009
209	49369.21	179791.76	29.01	Set 2" Alum Tablet [USKH] : CP 209 2009
210	49980.87	177004.19	64.47	Set 2" Brass Tablet [USKH] : CP 210 2009
211	50167.89	174183.54	18.43	Set 2" Brass Tablet [USKH] : CP 211 2009
212	50449.13	171635.04	14.39	Set 2" Alum Tablet [USKH] : CP 212 2009
213	51004.59	169368.70	26.41	Set 2" Brass Tablet [USKH] : CP 213 2009
214	53605.13	167007.14	43.87	Set 2" Alum Tablet [USKH] : CP 214 2009
215	55806.10	165237.31	47.71	Set 2" Brass Tablet [USKH] : CP 215 2009
216	58048.17	164102.32	130.25	Set 2" Alum Tablet [USKH] : CP 216 2009
217	60274.90	164141.64	115.57	Set 2" Brass Tablet [USKH] : CP 217 2009
601	29507.12	188541.80	18.07	Set Mag Nail



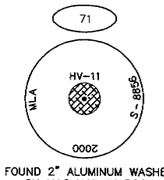
FOUND 3 1/2" BRASS CAP IN CONCRETE WALK BETWEEN 2 BLUE & WHITE PETER PAN CANNERY RESIDENCES GOOD CONDITION



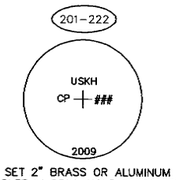
FOUND 2" ALUMINUM WASHER ON MAG NAIL IN ROCK GOOD CONDITION



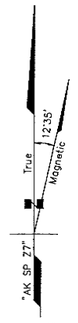
FOUND 3" BRASS CAP ON NARROW ROCK PT LEDGE GOOD CONDITION



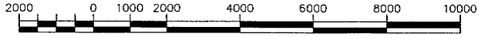
FOUND 2" ALUMINUM WASHER ON MAG NAIL IN ROCK GOOD CONDITION



SET 2" BRASS OR ALUMINUM TABLET IN DRILL HOLE FILLED WITH EPOXY MAG AT BASE OF STEM



Declination is 12°35' E. per NOAA February 15, 2010.



U.S. SURVEY FEET
1"=2000'

STATE OF ALASKA
49 TH
Jacob M. Gerondale
LS-11758
REGISTERED PROFESSIONAL LAND SURVEYOR

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

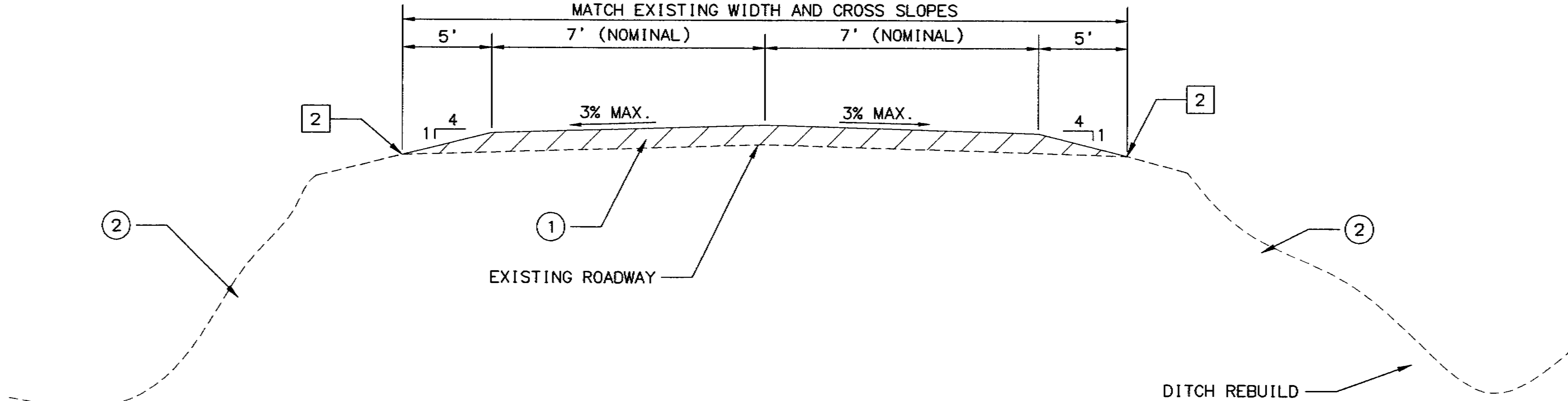
KING COVE ACCESS ROAD COMPLETION

SURVEY CONTROL

Plotted by: chakari Plotted: Sep 13, 2010 , 11:00am

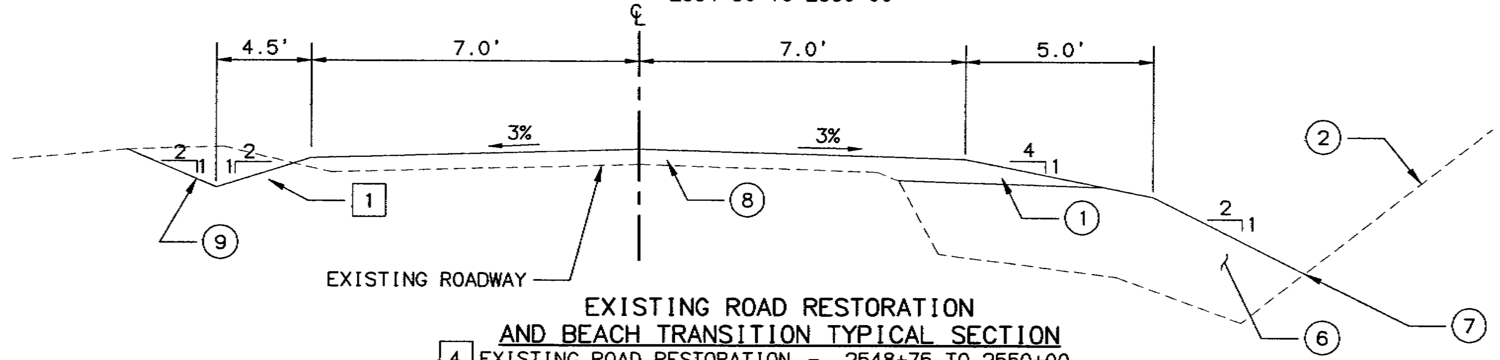
DESIGNED BY	
CHECKED BY	
DRAFTED BY	Sep 13, 2010
CTB:	
PLOT SCALE: 1	
SCALE 1=	
XREFS:	
COMPUTER DESIGNATION	I:\A1177500\Dgns\CVF_from_Survey\A1177500_SCS_01.dwg

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	B1	59



EXISTING ROAD TYPICAL SECTION

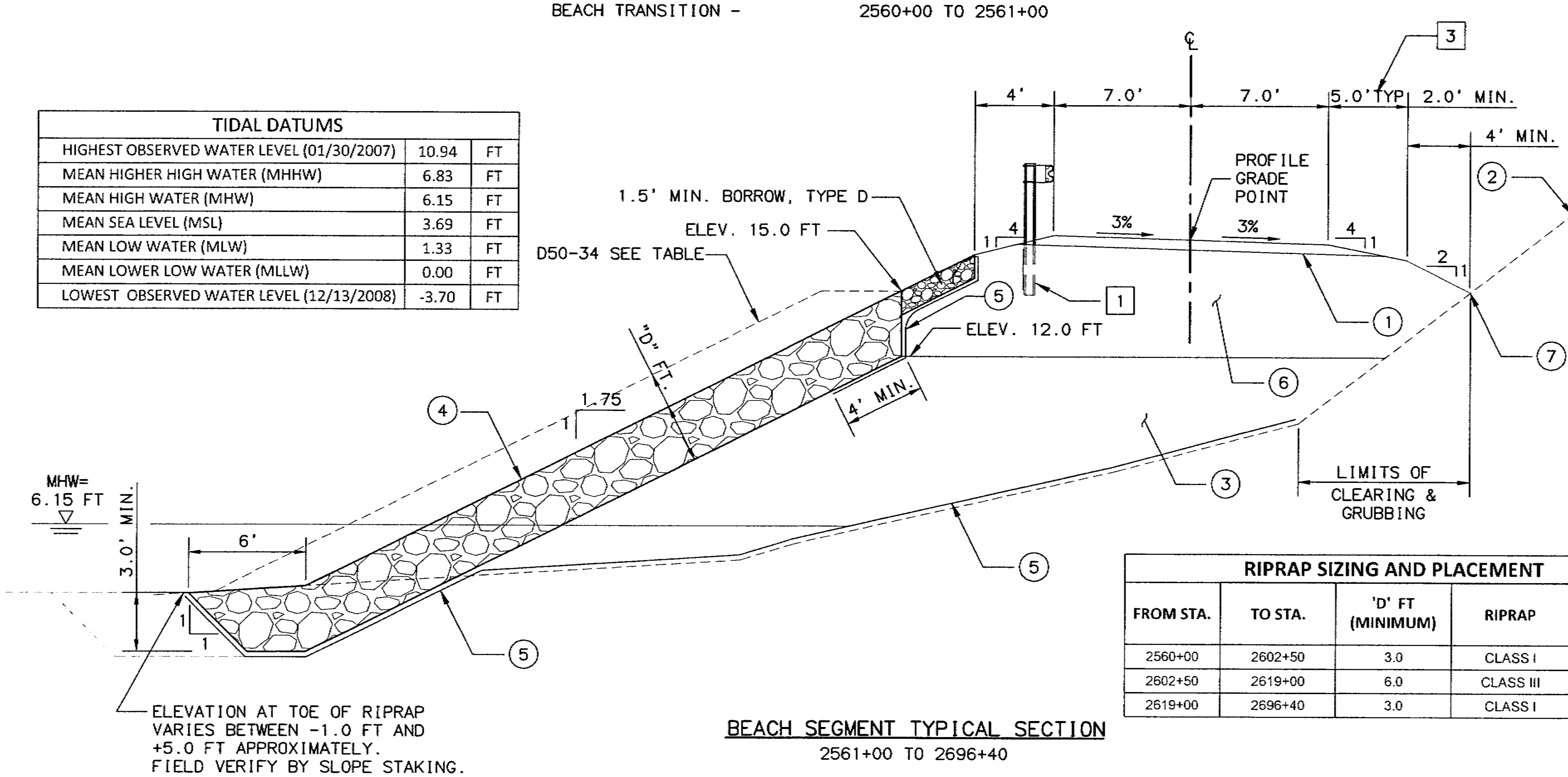
2298+00 TO 2548+75
2550+00 TO 2553+25
2554+30 TO 2560+00



EXISTING ROAD RESTORATION AND BEACH TRANSITION TYPICAL SECTION

4 EXISTING ROAD RESTORATION - 2548+75 TO 2550+00
2553+25 TO 2554+30
BEACH TRANSITION - 2560+00 TO 2561+00

TIDAL DATUMS		
HIGHEST OBSERVED WATER LEVEL (01/30/2007)	10.94	FT
MEAN HIGHER HIGH WATER (MHHW)	6.83	FT
MEAN HIGH WATER (MHW)	6.15	FT
MEAN SEA LEVEL (MSL)	3.69	FT
MEAN LOW WATER (MLW)	1.33	FT
MEAN LOWER LOW WATER (MLLW)	0.00	FT
LOWEST OBSERVED WATER LEVEL (12/13/2008)	-3.70	FT



RIPRAP SIZING AND PLACEMENT				
FROM STA.	TO STA.	'D' FT (MINIMUM)	RIPRAP	D50 INCHES
2560+00	2602+50	3.0	CLASS I	14
2602+50	2619+00	6.0	CLASS III	34
2619+00	2696+40	3.0	CLASS I	14

BEACH SEGMENT TYPICAL SECTION

2561+00 TO 2696+40

LEGEND

1. 6" CRUSHED AGGREGATE SURFACE COURSE, GRADING E-1
2. VEGETATED SLOPES NOT TO BE DISTURBED.
3. BORROW, TYPE D
4. RIPRAP, CLASS I OR CLASS III. SEE RIPRAP SIZING AND PLACEMENT TABLE BELOW. DIMENSIONS SHOWN ARE APPROXIMATE AND PROVIDE A BASIS FOR ESTIMATE.
5. GEOTEXTILE, EROSION CONTROL, CLASS I. REQUIRED AT TOP AND TOE OF RIPRAP. GEOTEXTILE TO BE PLACED WITH LAP JOINTS PERPENDICULAR TO THE ROADWAY CENTERLINE.
6. BORROW, TYPE B
7. DITCH LINING/DITCH REBUILD AS REQUIRED. SEE DETAILS, SHEET E1
8. CRUSHED AGGREGATE SURFACE COURSE, GRADING E-1 AS REQUIRED TO MEET FINISHED GRADE.
9. LIMITS OF UNCLASSIFIED EXCAVATION.

NOTES:

1. CONSTRUCT STEEL POST W-BEAM GUARDRAIL PER STD. DWG G-04.06S. SEE SUMMARY.
2. LIMIT WORK TO EXISTING WIDTH OF ROADWAY EXCEPT DITCH REBUILD. SEE DETAIL, SHEET E1. MODIFY WIDTHS AND CROSS SLOPES AS REQUIRED AND APPROVED.
3. SHOULDER WIDTH MAY BE ADJUSTED IN AREAS WHERE THE DITCH DEPTH NEEDS TO BE REVISED TO ENSURE POSITIVE FLOW TO CULVERT PIPES OR TO PROVIDE A MINIMUM DEPTH OF DITCH. SHOULDER WIDTHS LESS THAN 2' MAY BE MADE WITH THE ENGINEERS APPROVAL. SEE SUMMARY TABLES FOR IDENTIFIED APPROXIMATE LOCATIONS AND EXTENTS.
4. ADDITIONAL AREAS OF THE EXISTING ROAD MAY REQUIRE RESTORATION AS DIRECTED.
5. CONSTRUCTION WITHIN THE INTERTIDAL ZONE FOR THE BEACH ROAD SHALL FOLLOW THE FOLLOWING SEQUENCE:
   A. FILL WILL BE PLACED ONLY DURING PERIODS OF LOW TIDE.
   B. RIPRAP SHALL BE PLACED FOR PERMANENT EROSION CONTROL IMMEDIATELY AFTER PLACING ROAD FILL TO 2' ABOVE THE EXPECTED WATER LEVEL ON SUBSEQUENT TIDES. CONSERVATION OF RIPRAP MATERIAL WILL REQUIRE A NEAR SIMULTANEOUS PLACEMENT OF 12 INCH MINUS SHOT ROCK (BORROW, TYPE D) AND RIPRAP.
   C. THE FINAL LAYER OF EMBANKMENT, AND RIPRAP WOULD BE PLACED AS SOON AS PRACTICAL IN THE CONSTRUCTION SEQUENCE TO ESTABLISH THE STABILIZED EMBANKMENT TO ITS FINISHED ELEVATION.
6. SEED ALL CUT AND FILL SLOPES, AND AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, OR AS DIRECTED BY THE ENGINEER.
7. BENCHING OF EXISTING SLOPES IN FILL AREAS IN ACCORDANCE WITH SECTION 203-3.03 OF THE SPECIFICATIONS WILL NOT BE REQUIRED IN THE BEACH SEGMENT, STA. 2561+00 TO STA. 2696+40.
8. SUPERELEVATION OF THE ROADWAY WILL NOT BE REQUIRED.

STATE OF ALASKA, 49th, Steven M. Kari, No. CE 9203, REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

TYPICAL SECTION

Plotted by: chakari Plotted: Sep 13, 2010 , 11:11am
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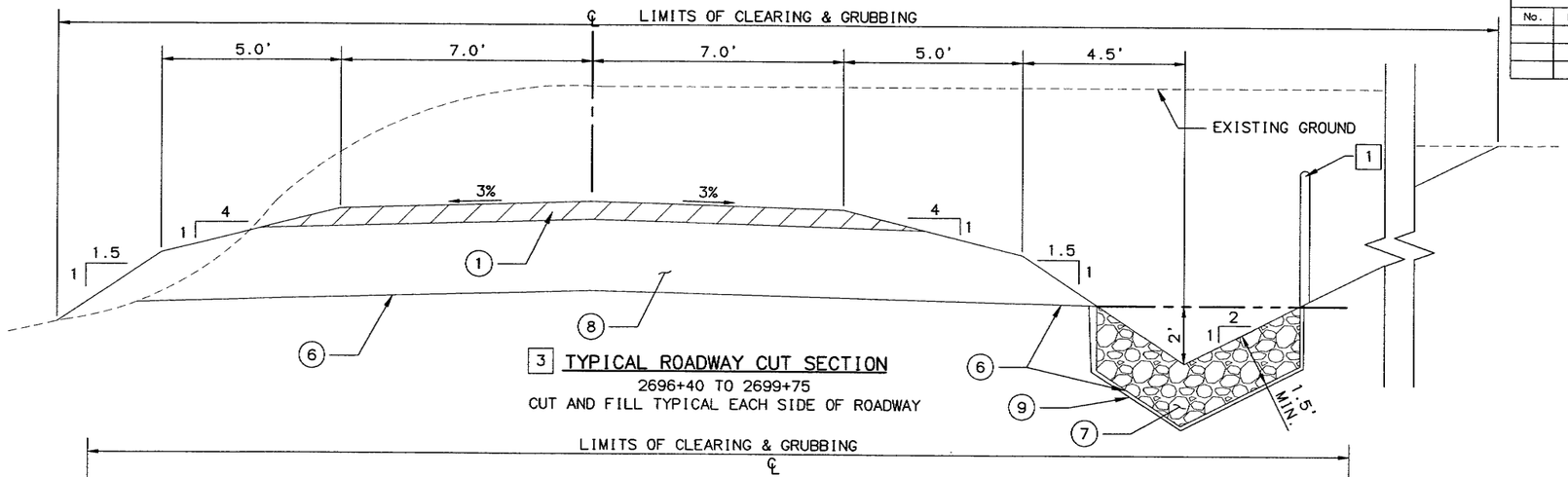
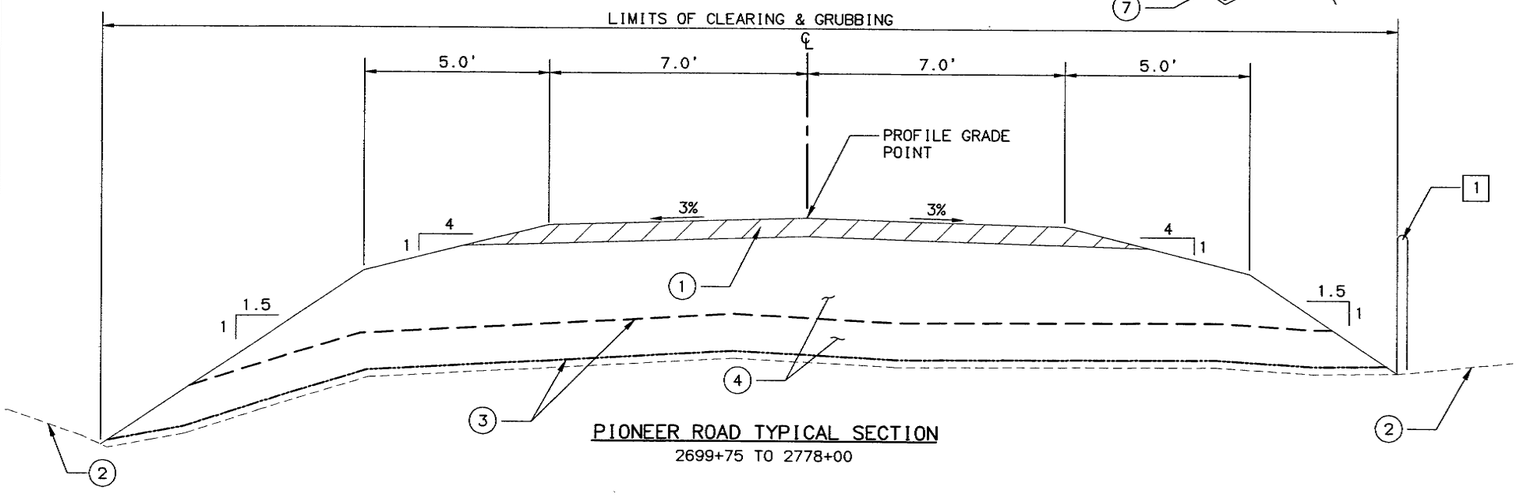
SCALE 1" = | COMPUTER DESIGNATION I:\1177500\Dwgs\C\Sheets\1177500-B1.dwg | PLOT SCALE: 1 | VIEW= | Sep 13, 2010

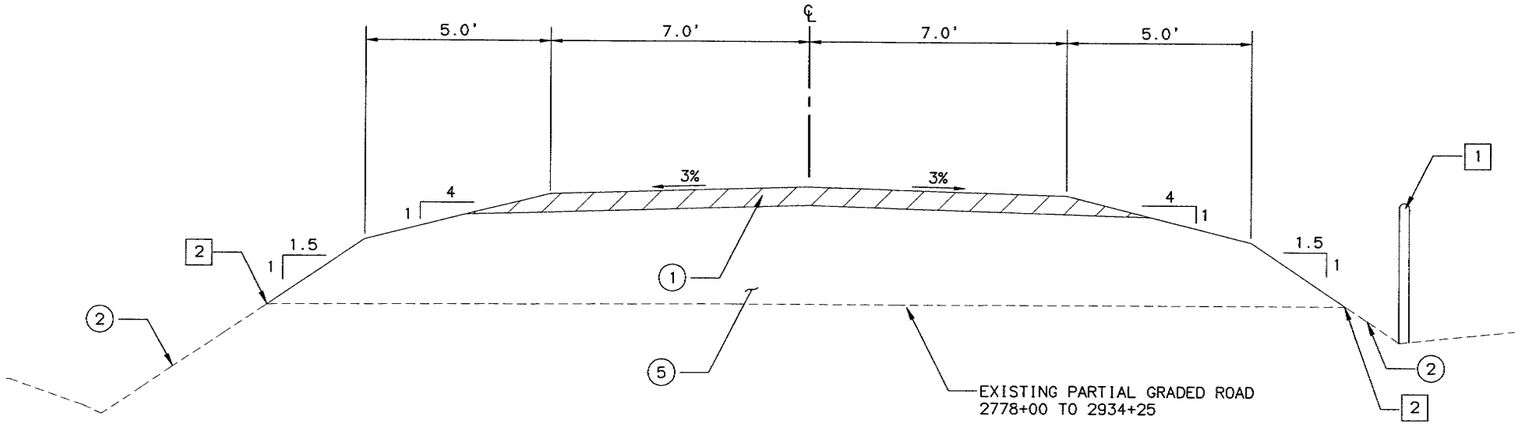
REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	B2	59



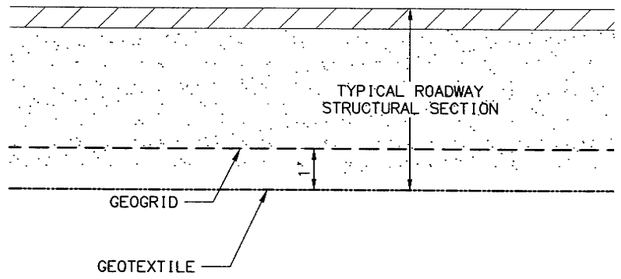
3 TYPICAL ROADWAY CUT SECTION
2696+40 TO 2699+75
CUT AND FILL TYPICAL EACH SIDE OF ROADWAY



PIONEER ROAD TYPICAL SECTION
2699+75 TO 2778+00



PARTIAL GRADED ROAD TYPICAL SECTION
2778+00 TO 2934+25



GEOSYNTHETIC REINFORCEMENT DETAIL

* SEE SUMMARY FOR LOCATIONS OR AS DIRECTED

LEGEND:

1. 6" CRUSHED AGGREGATE SURFACE COURSE, GRADING E-1
2. VEGETATED SLOPES NOT TO BE DISTURBED.
3. GEOTEXTILE, SEPARATION, CLASS 2, AND GEOGRID, TYPE II PER TABLE ON SHEET D4.
4. 42" BORROW, TYPE B, APPROXIMATE THICKNESS. CONSTRUCT TO DESIGN GRADE AS SPECIFIED ON F SHEETS.
5. 24" BORROW, TYPE B. CONSTRUCT ROADWAY TO MATCH EXISTING GRADES PLUS 30".
6. LIMITS OF UNCLASSIFIED EXCAVATION.
7. BORROW, TYPE D, DITCH LINING.
8. 24" BORROW, TYPE B.
9. GEOTEXTILE, EROSION CONTROL, CLASS 1.

NOTES:

1. CONSTRUCT BOLLARD WITH CHAIN. SEE SUMMARY & DETAIL.
2. LIMIT WORK TO EXISTING ROADWAY EMBANKMENT. MODIFY 4:1 SLOPE OR SHOULDER WIDTH AS APPROVED. SOME AREAS OF EXISTING DITCH LINE HAVE SLOUGHED. EXCAVATE AND REGRADE THESE AREAS AS DIRECTED. SEED ALL AREAS OF DISTURBANCE ON SOL SLOPES AS DIRECTED.
3. THIS SEGMENT CUTS THROUGH AN AVAILABLE SOURCE OF BORROW TYPE B MATERIAL. SHOULD THIS MATERIAL MEET SPECIFICATIONS, DEVELOPMENT WILL BE ALLOWED TO EXTRACT PROJECT MATERIALS. SEE SHEET E5 AND SECTION 106-1.02 FOR REQUIREMENTS AND DEVELOPMENT DETAILS.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

TYPICAL SECTION

STATE OF ALASKA 49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

Plotted: Aug 31, 2010 , 10:02am
Plotted by: chakari
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 31, 2010
CTB:
PLOT SCALE: 1
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COMPUTER DESIGNATION

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	C1	59

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
201(3B)	CLEARING AND GRUBBING	LUMP SUM	ALL REQ'D
202(4)	REMOVAL OF CULVERT PIPE	LINEAR FOOT	190
203(3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	9,500
203(5B)	BORROW, TYPE B	CUBIC YARD	76,000
203(5D)	BORROW, TYPE D	CUBIC YARD	72,000
203(32)	PERMANENT CHECK DAM	EACH	17
301(4)	AGGREGATE SURFACE COURSE, GRADING E-1	CUBIC YARD	7,200
301(8)	AGGREGATE SURFACE COURSE, DFM	CUBIC YARD	13,500
603(21-24)	24 INCH CORRUGATED POLYETHYLENE PIPE	LINEAR FOOT	3,132
603(21-36)	36 INCH CORRUGATED POLYETHYLENE PIPE	LINEAR FOOT	1,390
603(35A)	PRECAST REINFORCED CONCRETE BOX CULVERT, 5'-0" SPAN, 3'-0" RISE	LINEAR FOOT	40
603(35B)	PRECAST REINFORCED CONCRETE BOX CULVERT, 6'-0" SPAN, 4'-0" RISE	LINEAR FOOT	40
606(1)	W-BEAM GUARDRAIL	LINEAR FOOT	13,700
606(10)	SLOTTED RAIL TERMINAL (SRT-350)	EACH	2
606(20)	BOLLARDS WITH CHAIN	LINEAR FOOT	24,365
610(3)	DITCH LINING	STATION	157
610(6D)	SPILLWAY, TYPE D	CUBIC YARD	230
610(6R)	SPILLWAY, TYPE R	CUBIC YARD	510
611(1A)	RIPRAP, CLASS I	CUBIC YARD	40,275
611(1B)	RIPRAP, CLASS III	CUBIC YARD	11,550
615(1)	STANDARD SIGN	SQUARE FOOT	105.6
615(4)	DELINEATOR, RIGID	EACH	619
615(5)	DELINEATOR, FLEXIBLE	EACH	496
618(2)	SEEDING	POUND	355
630(1)	GEOTEXTILE, SEPARATION, CLASS 2	SQUARE YARD	24,480
631(2)	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	109,400
633(1)	SILT FENCE	LINEAR FOOT	21,400
634(1)	GEOGRID, TYPE II	SQUARE YARD	24,480
640(1)	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQ'D
640(4)	WORKER MEALS AND LODGING, OR PER DIEM	LUMP SUM	ALL REQ'D
641(1)	EROSION, SEDIMENT, AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQ'D
641(2)	TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL	CONTINGENT SUM	ALL REQ'D
641(5)	EROSION, SEDIMENT, AND POLLUTION CONTROL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D
641(6)	SWPPP MANAGER	LUMP SUM	ALL REQ'D
642(1)	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQ'D
642(3)	THREE PERSON SURVEY PARTY	HOUR	80
642(15)	AS-BUILT SURVEYS	LUMP SUM	ALL REQ'D
644(1)	FIELD OFFICE	LUMP SUM	ALL REQ'D
644(2)	FIELD LABORATORY	LUMP SUM	ALL REQ'D
644(8)	VEHICLE (LT/SUV)	EACH	3
644(9A)	VEHICLE (ATV)	EACH	2
644(10)	ENGINEERING COMMUNICATIONS	CONTINGENT SUM	ALL REQ'D
644(15)	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EACH	1
644(16)	STORAGE CONTAINER	EACH	1
645(1)	TRAINING PROGRAM, 2 TRAINEES/APPRENTICES	LABOR HOUR	1100
646(1)	CPM SCHEDULING	LUMP SUM	ALL REQ'D
647(2)	WIDE PAD DOZER, 65 HP MINIMUM	HOUR	80
650(1)	RELOCATE HOVERCRAFT TERMINAL	LUMP SUM	ALL REQ'D
672(1)	ENVIRONMENTAL RESOURCE MONITORING	LUMP SUM	ALL REQ'D

AGGREGATE SURFACE COURSE - BASIS OF ESTIMATE

1,500	CY	STOCKPILE AT 2298+00
14,000	CY	STOCKPILE AT 2450+00
15,500	CY	TOTAL STOCKPILE
1.15		COMPACTION FACTOR
13,500	CY	COMPACTED, IN-PLACE (DFM)
20,700	CY	COMPACTED, IN-PLACE, REQUIRED
7,200	CY	COMPACTED, IN-PLACE (CONTRACTOR SUPPLIED)

STATE OF ALASKA 49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

ESTIMATE OF QUANTITIES

Plotted by: chakarl Plotted: Sep 13, 2010 , 11:38am
DESIGNED BY
CHECKED BY
DRAFTED BY
Sep 13, 2010
CTB:
PLOT SCALE: 1
VIEW=
XREFS:
SCALE 1=
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REVISIONS		
No.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	D1	59

CULVERT SUMMARY

PIPE NUMBER	CENTER LINE STATION	TYPE	SIZE		PIPE DATA						GRADIENT	REMARKS
					LEFT			RIGHT				
			24"	36"	STATION	OFFSET	INVERT-FT	STATION	OFFSET	INVERT-FT		
P-01a	2544+73.0	CPP		48	2544+84.6	25.6	149.85	2544+64.9	17.8	151.00	0.024	CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-01b	2546+83.9	CPP		64	2547+03.2	38.7	142.20	2546+71.1	20.8	143.37	0.018	CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-02	2548+53.6	CBC			2548+53.6	20.0	129.98	2548+53.6	20.4	130.05	0.013	6'-0"x4'-0"x40' REINFORCED CONCRETE BOX CULVERT. SEE SHEET E7 FOR DETAILS CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY.
P-03	2549+72.7	CBC			2549+82.3	19.5	119.95	2549+65.7	17.4	120.49	0.014	5'-0"x3'-0"x40' REINFORCED CONCRETE BOX CULVERT. SEE SHEET E7 FOR DETAILS CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY.
P-04	2551+48.4	CPP		52	2551+67.8	22.1	101.21	2551+34.2	17.5	105.15	0.076	CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-05	2553+54.5	CPP		40	2553+62.4	19.1	86.20	2553+46.2	17.5	87.64	0.036	CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-06	2554+80.1	CPP		42	2554+88.4	19.2	76.22	2554+70.1	23.0	78.06	0.044	CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-07	2556+31.4	CPP		46	2557+44.8	19.1	54.50	2557+20.2	19.8	56.49	0.043	CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-08	2559+30.3	CPP		44	2559+37.9	23.7	37.92	2559+24.5	18.2	40.00	0.047	CONSTRUCT PERM. CHECK DAM AND TYPE R SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-09	2561+59.9	CPP		54	2561+75.8	21.1	19.94	2561+41.2	20.4	21.46	0.028	
P-10	2562+76.2	CPP	50		2562+77.0	25.9	12.54	2562+75.5	24.1	13.10	0.011	
P-11	2563+98.5	CPP	52		2563+98.5	26.5	10.00	2563+98.4	25.5	11.47	0.028	
P-12	2569+00.0	CPP	42		2569+00.0	22.3	12.24	2569+00.0	19.6	13.40	0.028	
P-13	2570+00.5	CPP	38		2570+00.6	21.1	13.14	2570+00.5	16.9	14.70	0.041	
P-14	2571+00.0	CPP	42		2571+00.1	21.9	12.10	2570+99.9	20.1	13.00	0.021	
P-15	2573+48.5	CPP	40		2573+47.9	22.8	11.57	2573+49.0	17.1	14.60	0.076	
P-16	2576+24.9	CPP		50	2576+24.5	26.9	9.87	2576+25.3	23.1	10.90	0.021	
P-17	2579+00.0	CPP	42		2579+00.0	21.5	12.17	2579+00.0	20.5	12.89	0.017	
P-18	2581+00.1	CPP	42		2581+00.2	21.6	11.91	2581+00.0	20.4	13.01	0.026	
P-19	2583+76.3	CPP	46		2583+77.5	24.3	11.07	2583+74.9	21.6	12.40	0.029	
P-20	2585+99.9	CPP	52		2585+99.8	28.0	8.97	2586+00.1	24.0	10.17	0.023	
P-21	2588+50.9	CPP	44		2588+51.8	23.2	11.32	2588+50.1	20.8	12.80	0.034	
P-22	2591+75.2	CPP	50		2591+75.2	26.9	9.76	2591+75.1	23.1	10.80	0.021	
P-23	2593+99.5	CPP	48		2593+99.5	23.7	11.55	2594+00.5	24.3	12.50	0.020	
P-24	2597+50.0	CPP	38		2597+50.0	19.7	13.11	2597+50.0	18.3	14.00	0.023	
P-25	2599+90.9	CPP	50		2599+90.9	26.9	9.77	2599+90.9	23.1	10.80	0.021	

NOTES:

1. CULVERT LOCATIONS AND INVERTS ARE APPROXIMATE. MINOR FIELD ADJUSTMENTS MAY BE REQUIRED TO MAINTAIN EXISTING DRAINAGE PATTERNS.
2. FLOWING WATER AT TIME OF CULVERT INSTALLATION MUST BE DIVERTED PER THE DIVERSION CHANNEL DETAIL ON SHEET P10, OR BY OTHER MEANS TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE RECEIVING WATERS.
3. SEE SPILLWAY SUMMARY ON SHEET D4.
4. DFM = DEPARTMENT FURNISHED MATERIAL. SEE SECTION 106-1.07 OF THE SPECIFICATIONS.

STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SUMMARY SHEET

REVISIONS		
No.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	D2	59

CULVERT SUMMARY

PIPE NUMBER	CENTER LINE STATION	TYPE	SIZE		PIPE DATA							REMARKS
					LEFT			RIGHT				
			24"	36"	STATION	OFFSET	INVERT-FT	STATION	OFFSET	INVERT-FT	GRADIENT	
P-26	2601+00.2	CPP	58		2601+00.5	29.3	7.92	2601+00.0	28.7	9.10	0.020	
P-27	2602+24.8	CPP	40		2602+24.8	20.8	12.71	2602+24.8	19.1	13.60	0.022	
P-28	2605+50.2	CPP	50		2605+50.3	27.0	10.01	2605+50.2	23.0	10.90	0.018	
P-29	2608+15.0	CPP		42	2608+15.0	22.2	12.08	2608+15.0	19.8	13.30	0.029	
P-30	2612+50.0	CPP	38		2612+50.0	20.7	13.61	2612+50.0	17.3	14.50	0.023	
P-31	2613+50.0	CPP	38		2613+50.1	20.5	13.51	2613+50.0	17.5	14.40	0.023	
P-32	2616+00.0	CPP	38		2616+00.0	19.9	13.13	2616+00.0	18.1	14.10	0.026	
P-33	2620+00.0	CPP	38		2620+00.0	20.0	13.13	2620+00.0	18.0	14.10	0.026	
P-34	2622+75.0	CPP	40		2622+75.0	21.2	12.77	2622+75.0	18.8	13.80	0.026	
P-35	2625+50.0	CPP	40		2625+50.0	20.9	12.75	2625+50.0	19.1	13.70	0.024	
P-36	2627+50.0	CPP	52		2627+49.9	27.8	8.80	2627+50.0	24.2	10.20	0.027	
P-37	2630+00.0	CPP	38		2629+50.0	19.8	13.22	2629+50.0	18.3	14.00	0.021	
P-38	2631+25.0	CPP	36		2631+25.1	19.1	13.88	2631+25.0	16.9	14.70	0.023	
P-39	2633+56.0	CPP	40		2633+56.0	21.0	12.76	2633+56.0	19.0	13.70	0.024	
P-40	2636+75.0	CPP	36		2636+75.0	18.9	13.72	2636+75.0	17.1	14.60	0.024	
P-41	2638+75.0	CPP	38		2639+50.0	20.5	13.36	2639+50.0	17.5	14.40	0.027	
P-42	2642+75.0	CPP	44		2642+88.0	22.4	11.47	2642+88.0	21.6	12.51	0.024	
P-43	2645+00.0	CPP	46		2645+00.0	24.2	10.76	2645+00.0	21.8	11.60	0.018	
P-44	2647+80.0	CPP	42		2647+80.0	22.4	12.53	2647+80.0	19.6	13.54	0.024	
P-45	2653+00.0	CPP	44		2653+00.0	22.7	11.52	2653+00.0	21.3	12.60	0.025	
P-46	2655+00.0	CPP	42		2657+25.0	21.8	12.24	2657+25.0	20.2	13.20	0.023	
P-47	2661+00.0	CPP	40		2661+75.0	21.5	12.98	2661+75.0	18.5	14.00	0.026	
P-48	2664+50.0	CPP	40		2664+50.0	20.6	12.58	2664+50.0	19.4	13.60	0.026	
P-49	2667+25.0	CPP	40		2667+25.0	21.6	12.79	2667+25.0	18.3	13.90	0.028	
P-50	2669+00.0	CPP	38		2669+00.0	19.8	13.10	2669+00.0	18.2	14.10	0.026	
P-51	2671+00.0	CPP	48		2671+00.0	24.0	11.50	2671+00.0	24.0	12.50	0.021	
P-52	2673+75.0	CPP	40		2673+75.0	21.3	13.00	2673+75.0	18.7	14.00	0.025	
P-53	2675+75.0	CPP	42		2675+75.0	22.3	12.26	2675+74.9	19.6	13.20	0.022	
P-54	2678+15.0	CPP	36		2678+15.0	20.6	13.71	2678+15.0	15.4	14.80	0.030	
P-55	2680+62.0	CPP	34		2680+62.0	19.5	13.97	2680+62.0	14.5	14.94	0.029	
P-56	2683+25.0	CPP	42		2683+25.0	22.4	12.42	2683+25.0	19.6	13.30	0.021	
P-57	2687+25.0	CPP	42		2687+25.0	22.1	12.46	2687+25.0	19.9	13.30	0.020	
P-58	2690+74.0	CPP	38		2690+74.0	19.9	13.20	2690+74.0	18.1	14.00	0.021	
P-59	2693+50.0	CPP	42		2693+45.0	21.4	15.10	2693+56.3	19.0	16.02	0.022	
P-60	2694+95.5	CPP	42		2694+88.0	21.7	22.47	2695+01.7	18.0	23.45	0.023	CONSTRUCT DITCH BLOCK AND TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-61	2696+68.1	CPP	40		2696+58.5	19.5	35.38	2696+76.1	16.4	36.62	0.031	CONSTRUCT DITCH BLOCK AND TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SUMMARY SHEET

Plotted by: kblair Plotted: Aug 26, 2010 , 11:08am

CTB:
PLOT SCALE: 1
VIEW=

DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010

XREFS:

SCALE 1=

COMPUTER DESIGNATION I:\177500\Dwgs\C\Sheets\177500-D1.dwg

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	D3	59

CULVERT SUMMARY

PIPE NUMBER	CENTERLINE STATION	TYPE	SIZE		PIPE DATA						GRADIENT	REMARKS
					LEFT			RIGHT				
			24"	36"	STATION	OFFSET	INVERT-FT	STATION	OFFSET	INVERT-FT		
P-62	2697+85.9	CPP	42		2697+74.6	17.2	46.78	2697+99.1	16.9	49.74	0.070	CONSTRUCT 2-PERM. CHECK DAMS. DFM CSP MAY BE USED AT THIS LOCATION. DAYLIGHT SLOPE AND DITCH TO DRAIN.
P-63	2700+87.5	CPP		106	2701+10.7	56.1	65.27	2700+72.6	43.0	66.31	0.010	CONSTRUCT TYPE D SPILLWAY
P-64	2700+92.8	CPP		106	2701+16.8	56.2	65.49	2700+77.7	42.5	67.48	0.019	CONSTRUCT TYPE D SPILLWAY
P-65	2705+60.3	CPP	38		2705+54.6	19.2	115.16	2705+65.3	17.2	116.10	0.025	DFM CSP MAY BE USED AT THIS LOCATION.
P-66	2707+00.0	CPP	36		2707+00.0	21.0	113.11	2707+00.0	14.9	116.70	0.100	DFM CSP MAY BE USED AT THIS LOCATION.
P-67	2711+61.2	CPP		64	2711+67.8	33.1	112.09	2711+58.2	30.3	113.04	0.015	DFM CSP MAY BE USED AT THIS LOCATION.
P-68	2713+48.8	CPP	38		2713+46.9	21.6	119.08	2713+50.2	16.3	120.55	0.039	CONSTRUCT TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-69	2716+93.9	CPP	34		2716+49.8	19.0	123.69	2716+50.2	15.0	125.80	0.062	DFM CSP MAY BE USED AT THIS LOCATION.
P-70	2721+03.9	CPP		60	2721+14.5	31.4	124.32	2720+97.3	26.2	125.62	0.022	CONSTRUCT TYPE D SPILLWAY
P-71	2724+76.6	CPP		116	2724+90.4	61.6	102.41	2724+65.2	51.6	104.87	0.021	CONSTRUCT TYPE D SPILLWAY
P-72	2724+81.8	CPP		116	2724+95.2	60.6	102.14	2724+70.0	52.7	105.00	0.025	CONSTRUCT TYPE D SPILLWAY
P-73	2727+75.0	CPP	44		2727+75.0	24.5	131.59	2727+75.0	19.5	132.70	0.025	CONSTRUCT TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-74	2731+18.7	CPP	42		2731+26.9	22.8	125.68	2731+12.9	16.5	130.89	0.124	DFM CSP MAY BE USED AT THIS LOCATION.
P-75	2732+89.9	CPP	40		2733+10.0	22.7	123.42	2732+98.2	15.5	127.30	0.097	DFM CSP MAY BE USED AT THIS LOCATION.
P-76	2736+33.3	CPP		44	2736+38.3	24.6	116.76	2736+29.5	18.3	120.73	0.090	
P-77	2738+75.0	CPP	34		2738+86.0	18.4	118.94	2738+86.0	15.6	120.00	0.031	CONSTRUCT TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-78	2741+01.5	CPP	38		2740+95.9	20.7	127.13	2741+05.9	16.0	129.50	0.062	CONSTRUCT PERM. CHECK DAM AND TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION. ADJUST SLOPE TO ENSURE DRAINAGE.
P-79	2743+27.2	CPP	40		2743+18.0	19.3	146.35	2743+35.2	16.8	148.00	0.041	CONSTRUCT PERM. CHECK DAM AND TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-80	2746+53.8	CPP		52	2746+44.5	26.0	161.00	2746+62.0	22.9	164.00	0.058	
P-81	2746+55.6	CPP		52	2746+49.2	26.2	160.50	2746+66.7	22.7	163.14	0.051	
P-82	2746+60.4	CPP		50	2746+54.4	25.0	164.00	2746+71.2	22.0	165.40	0.028	
P-83	2751+75.0	CPP	36		2751+75.0	20.4	167.32	2751+75.0	15.6	168.30	0.027	CONSTRUCT TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-84	2756+39.7	CPP	42		2756+40.1	22.8	142.81	2756+39.3	19.1	145.09	0.054	DFM CSP MAY BE USED AT THIS LOCATION.
P-85	2758+84.0	CPP	40		2758+87.2	22.0	145.26	2758+81.6	17.6	146.81	0.039	CONSTRUCT TYPE D SPILLWAY. DFM CSP MAY BE USED AT THIS LOCATION.
P-86	2762+06.7	CPP	40		2762+14.0	20.2	130.70	2762+00.5	17.4	132.50	0.045	CONSTRUCT PERM. CHECK DAM. DFM CSP MAY BE USED AT THIS LOCATION.
P-87	2765+96.4	CPP	62		2765+98.2	35.1	99.23	2765+95.0	26.6	104.11	0.079	DFM CSP MAY BE USED AT THIS LOCATION.
P-88	2767+97.6	CPP	58		2767+98.1	32.8	89.73	2767+97.2	24.9	95.02	0.091	DFM CSP MAY BE USED AT THIS LOCATION.
P-89	2769+60.7	CPP	46		2769+55.1	23.5	92.53	2769+65.8	21.2	94.37	0.040	DFM CSP MAY BE USED AT THIS LOCATION.
P-90	2773+18.0	CPP		72	2772+99.0	32.7	92.37	2773+37.9	27.4	99.07	0.093	DFM CSP MAY BE USED AT THIS LOCATION.
P-91	2776+92.5	CPP	48		2776+75.5	21.8	115.00	2777+02.1	17.7	118.29	0.069	DFM CSP MAY BE USED AT THIS LOCATION.
P-92	2783+03.6	CPP	46		2783+16.0	19.8	110.04	2782+91.7	19.1	111.02	0.021	DFM CSP MAY BE USED AT THIS LOCATION.
P-93	2787+03.2	CPP		68	2787+23.3	30.4	99.60	2786+85.8	26.3	101.00	0.021	CONSTRUCT TYPE D SPILLWAY
P-94	2790+10.0	CPP	38		2790+10.0	20.8	99.60	2790+10.0	17.1	102.00	0.063	DFM CSP MAY BE USED AT THIS LOCATION.
P-95	2826+02.6	CPP	36		2826+00.6	19.6	127.50	2826+04.2	16.2	128.49	0.028	DFM CSP MAY BE USED AT THIS LOCATION.
P-96	2854+32.0	CSP										120"x70' CSP. REPLACE EXISTING CULVERT AT SAME ELEVATION AND GRADE. BACKFILL INVERT USING EXISTING STREAMBED MATERIAL, OR AS APPROVED.
P-97	2467+30.0	CPP	40									APPROX. STATION. INSTALL AS DIRECTED
	2816+16, 14' RT	CPP	56									TRAILHEAD PARKING AREA ACCESS. SEE SHEET E4 FOR DETAILS
TOTALS			3132	1390								

STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SUMMARY SHEET

Plotted by: chakori Plotted: Sep 01, 2010 , 8:35am
CTB:
PLOT SCALE: 1
VIEW=
DESIGNED BY
CHECKED BY
DRAFTED BY
Sep 01, 2010
XREFS:
I:\177600\Dwgs\C\Sheets\177600-D1.dwg
SCALE 1=
COMPUTER DESIGNATION

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	D4	59

606(1) W-BEAM GUARDRAIL – LINEAR FOOT

SHEET	BEGIN	OFFSET	END	OFFSET	QUANTITY	REMARKS
F4 - F7	2560+80	7.00 LT	2696+62	7.00 LT	13,582	BEGIN AND END RUN WITH SRT-350 END SECTIONS
				TOTAL	13,582	

606(20) BOLLARDS WITH CHAIN – LINEAR FOOT

SHEET	BEGIN	OFFSET	END	OFFSET	QUANTITY	REMARKS
F7 - F12	2696+50	*	2934+25	*	23,775	BEGIN/END STATIONS ARE APPROXIMATE ONLY, AND WILL BE FIELD ADJUSTED TO PRECLUDE OFF-ROAD VEHICULAR TRAVEL. * SEE TYPICAL SECTIONS FOR INSTALLATION OFFSETS.
F10	2816+00				380	TRAILHEAD PARKING AREA - SEE SHEET E4 FOR LAYOUT
F12					210	NeCB SITE
			TOTAL		24,365	

634(1) GEOGRID, TYPE II – SQUARE YARD

BEGIN	END	WIDTH (FT)	AREA (SQ. YD.)
2707+00	2710+00	50	1,700
2712+00	2716+00	50	2,200
2718+00	2735+00	50	9,500
2759+00	2778+00	50	10,600
2816+00 - TRAILHEAD PARKING AREA			480
		TOTAL	24,480

610(3) DITCH LINING – STATION

SHEETS	BEGIN	END	OFFSET	LENGTH(STA)	REMARKS
F3 - F4	2545+00	2560+00	RT	15	
F4 - F8	2560+00	2696+40	RT	136	
F8	2696+75	2699+75	LT	3	
F8	2696+50	2699+75	RT	3	
			TOTAL	157	

202(4) REMOVAL OF CULVERT PIPE – LINEAR FOOT

STATION	LENGTH (FT)	REMARKS
2548+53	40	
2549+81	50	
2553+87	40	
2787+07	60	
TOTAL	190	

610(6) SPILLWAY SUMMARY

PIPE	STATION	OFFSET		TYPE		BORROW, TYPE D	RIPRAP, CLASS III (C.Y.)	GEOTEXTILE (S.Y.)	REMARKS
		LEFT	RIGHT	D	R				
P-01a	2544+73	X			X		37	13	
P-01b	2546+84	X			X		37	13	
P-02	2548+54	X			X		44	15	
P-03	2549+73	X			X		115	39	
P-04	2551+48	X			X		83	29	
P-05	2553+55	X			X		49	17	
P-06	2554+80	X			X		51	18	
P-07	2557+31	X			X		54	19	
P-08	2559+30	X			X		39	14	
P-60	2694+95	X		X		20		17	
P-61	2696+68	X		X		22		19	
P-63	2700+88	X		X		24		21	
P-64	2700+93	X		X		22		20	
P-68	2713+49	X		X		9		8	
P-70	2721+04	X		X		20		17	
P-71	2724+77	X		X		19		17	
P-72	2724+82	X		X		21		19	
P-73	2727+75	X		X		10		9	
P-77	2738+75	X		X		9		8	
P-78	2741+02	X		X		9		8	
P-79	2743+27	X		X		11		9	
P-83	2751+75	X		X		14		12	
P-85	2758+84	X		X		9		8	
P-93	2787+03	X		X		9		8	

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SUMMARY SHEET

REVISIONS		
No.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	D5	59

615(4) & 615(5) DELINEATOR – EACH

BEGIN	END	TYPE		OFFSET		REMARKS
		FLEXIBLE	RIGID	LEFT	RIGHT	
2545+00	2560+00		36	X	X	
2560+00	2697+00	240		X		
2560+00	2696+50		259		X	INCLUDES ADDITIONAL DELINEATORS AT TURNOUTS
2696+50	2699+75		5	X		INCLUDES ADDITIONAL DELINEATORS AT TURNOUTS
2696+50	2699+75	4			X	
2699+75	2914+00	223			X	INCLUDES ADDITIONAL DELINEATORS AT TURNOUTS
2699+75	2914+00		287	X		INCLUDES ADDITIONAL DELINEATORS AT TURNOUTS
2914+00	2934+26	29			X	INCLUDES ADDITIONAL DELINEATORS AT TURNOUTS
2914+00	2934+26		32	X		INCLUDES ADDITIONAL DELINEATORS AT TURNOUTS
	TOTAL	496	619			

630(1) & 631(2) GEOTEXTILE – SQUARE YARD

BEGIN	END	QUANTITY (SY)		REMARKS
		SEPARATION, CLASS 2	EROSION CONTROL CLASS 1	
2561+00	2696+40		108,315	BEACH SEGMENT RIPRAP
2707+00	2710+00	1,700		UNDER GEOGRID
2712+00	2716+00	2,200		UNDER GEOGRID
2718+00	2735+00	9,500		UNDER GEOGRID
2759+00	2778+00	10,600		UNDER GEOGRID
SPILLWAYS			335	SEE SPILLWAY SUMMARY
DITCH LINING			700	THROUGH CUT DITCH LINING ONLY
2816+00		480		TRAILHEAD PARKING AREA – UNDER GEOGRID
	TOTALS	24,480	109,400	

203(32) PERMANENT CHECK DAM – EACH

STATION	CENTERLINE OFFSET		REMARKS
	LEFT	RIGHT	
2544+66		X	
2546+78		X	
2548+75		X	
2549+80		X	
2552+39		X	
2553+51		X	
2554+74		X	
2557+25		X	
2559+27		X	
2561+45		X	
2695+00		X	
2696+72		X	
2697+75		X	
2697+93	X		
2741+03		X	
2743+32		X	
2762+03		X	

SHOULDER/SLOPE ADJUSTMENT SUMMARY

STATION	TO	STATION	DRAIN TO PIPE	OFFSET		REMARKS
				LEFT	RIGHT	
2581+25		2581+75	P-18		X	
2613+80		2614+80				ADJUST TO ELIMINATE CUT
2616+50		2617+00	P-32		X	
2619+00		2619+75	P-33		X	
2623+20		2623+80				ADJUST TO ELIMINATE CUT
2624+50		2625+25	P-35		X	
2624+75		2625+25				ADJUST TO ELIMINATE CUT
2625+75		2626+25				ADJUST TO ELIMINATE CUT
2627+75		2628+25	P-36		X	
2633+00		2633+40	P-39		X	
2634+00		2635+00	P-39		X	
2637+00		2637+75	P-40		X	
2638+50		2639+15				ADJUST TO ELIMINATE CUT
2639+50		2641+20				ADJUST TO ELIMINATE CUT
2639+75		2640+60	P-41		X	
2641+25		2641+80	P-42		X	
2642+10		2642+60	P-42		X	
2643+90		2644+10				ADJUST TO ELIMINATE CUT
2645+00		2646+60	P-43		X	
2649+25		2649+75				ADJUST TO ELIMINATE CUT
2650+25		2651+20	P-45		X	
2651+50		2653+00	P-45		X	
2653+00		2655+75	P-45		X	
2657+20		2658+50	P-46		X	
2660+00		2661+25	P-47		X	
2663+00		2663+60	P-48		X	
2675+00		2675+50	P-53		X	
2677+00		2678+00				ADJUST TO ELIMINATE CUT
2679+80		2680+65				ADJUST TO ELIMINATE CUT
2662+25		2662+90	P-56		X	
2685+25		2687+25	P-57		X	
2689+30		2690+75	P-58		X	
2691+10		2692+20				ADJUST TO ELIMINATE CUT
2705+50		2706+50	P-65		X	
2713+75		2714+60	P-68		X	
2717+50		2718+50	P-69		X	

NOTE: THIS TABLE ONLY LISTS AREAS WHERE THE SHOULDER WIDTH AND/OR FILL SLOPE NEEDS TO BE ADJUSTED TO ENSURE DRAINAGE TO THE LISTED PIPE. ADDITIONAL AREAS MAY NEED TO BE ADJUSTED TO CREATE THE MINIMUM DITCH DEPTH PER THE TYPICAL SECTIONS.

STATE OF ALASKA · REGISTERED PROFESSIONAL ENGINEER · 49TH · Steven M. Kari No. CE 9203

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SUMMARY SHEET

REVISIONS		
No.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	D6	59

SIGN SUMMARY

SHEET NO.	POST NO.	STATION	REF. CL.	MUTCD TYPE	LEGEND	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	AREA (SQ. FT.)	SIGN FACES	POST SIZE	THICKNESS (INCHES) FRAMED	THICKNESS (INCHES) UNFRAMED	REMARKS
F1	1	2298+00	10' RT.	R2-1	SPEED LIMIT 20	30	36	7.5	SE	1 X 2.5 PT	0.125		
F4	2	2545+00	10' LT.	R2-1	SPEED LIMIT 20	30	36	7.5	NW	1 X 2.5 PT	0.125		
F7	3	2705+00	10' RT.	W7-1		36	36	9.0	N	1 X 2.5 PT	0.125		
F9	4	2778+00	10' LT.	W7-1		36	36	9.0	S	1 X 2.5 PT	0.125		
F7-F12	5	SEE	10' RT.	CUSTOM	NO MOTORIZED VEHICLES	18	9	1.125	SEE	1 X 2.5 PT		0.125	INSTALL FACING ROADWAY AT 500' INTERVAL STARTING AT STA. 2697+00, TOTAL = 49 SIGNS
		REMARKS							REMARKS				MOUNT ON BOLLARDS
F11-F12	6	SEE	10' RT.	W14-101	END ROAD 1000 FT	36	36	9.0	SEE	1 X 2.5 PT	0.125		INSTALL 1,000' FROM END OF ROADWAY
		REMARKS							REMARKS				
F12	7	SEE	5' RT.	W14-100	END	30	30	6.25	SEE				INSTALL AT END OF ROAD. MOUNT ON TYPE III BARRICADE
		REMARKS							REMARKS				
F12	8	SEE	5' RT.	OM1-1		18	18	2.25	SEE				INSTALL AT END OF ROAD. MOUNT ON TYPE III BARRICADE
		REMARKS							REMARKS				

SIGNING NOTES:

1. INTERPRET THE ABBREVIATED POST TYPES SHOWN IN THE SIGN SUMMARY AS FOLLOWS:
   A. PT MEANS A 2.5" PERFORATED STEEL TUBE.
   B. T MEANS A 3" SQUARE STEEL TUBE (3/16" WALL).
   C. P MEANS A ROUND STEEL PIPE.
   D. W MEANS A WIDE FLANGE BEAM.
   E. MA MEANS A MAST ARM.
   F. SP MEANS A SIGNAL POLE
2. WHEN TUBES AND PIPES ARE USED TO SUPPORT A SIGN, INSTALL THE OUTER POSTS ON MAXIMUM 6-FOOT CENTERS. WHEN WIDE FLANGE POSTS ARE USED, INSTALL THE W SHAPE POSTS IN EACH SIGN INSTALLATION ON MINIMUM 8-FOOT CENTERS.
3. FABRICATE THE POST(S) IN EACH SIGN INSTALLATION LONG ENOUGH TO PROVIDE THE FOLLOWING MINIMUM CLEARANCES.
   A. 7' BETWEEN THE BOTTOM OF SIGN AND THE EDGE OF PAVEMENT.
   B. 7' BETWEEN THE BOTTOM OF SIGN AND THE GROUND AT THE SHORTEST POST.
   C. 9' BETWEEN THE TOP OF SIGN AND THE GROUND AT THE SHORTEST POST.
   D. 3' BETWEEN THE GROUND AND THE CORNER OF SIGN IN A CUT SECTION.
4. INSTALL THE TOP EDGE OF ALL SIGN PANELS ABOVE AND WITHIN 1" OF THE TOP(S) OF SIGN POST(S), EXCEPT WHEN D3-1 STREET NAME SIGNS ARE TO BE INSTALLED.
5. ATTACH FRAMED SIGNS TO THEIR SUPPORT POSTS AT ALL LOCATIONS WHERE THE WIND BEAMS CROSS EACH POST.
6. FOR PERFORATED STEEL TUBES (PTs), INSTALL THE CONCRETE FOUNDATION OPTION SHOWN ON STANDARD DRAWING S-30.03.

STATE OF ALASKA 49TH
Steven M. Kori
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USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SIGN SUMMARY

Plotted by: kblair Plotted: Aug 26, 2010 , 11:08am
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DESIGNED BY CHECKED BY DRAFTED BY Aug 26, 2010
XREFS:
SCALE 1=
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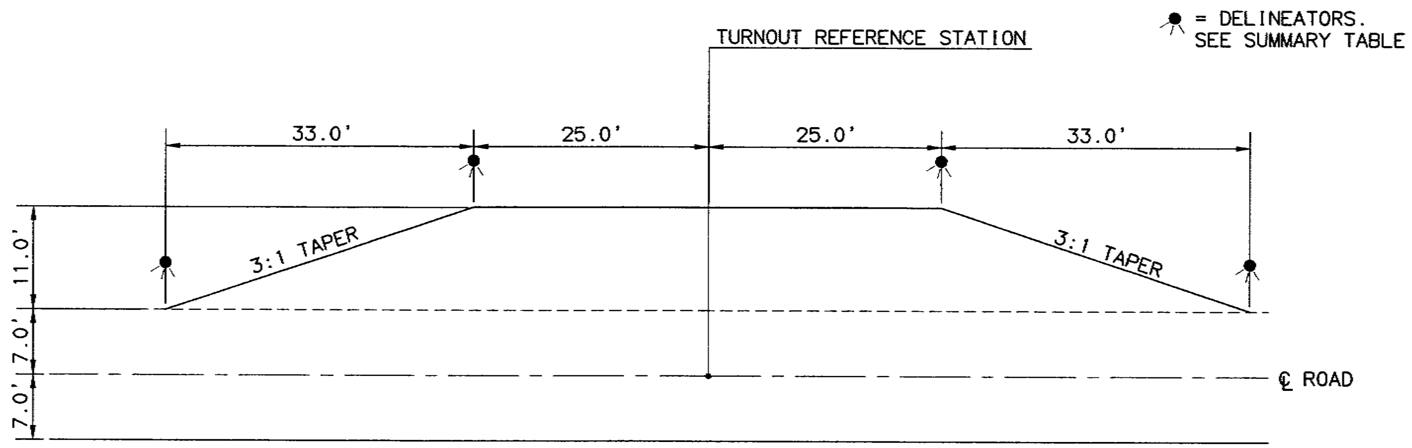
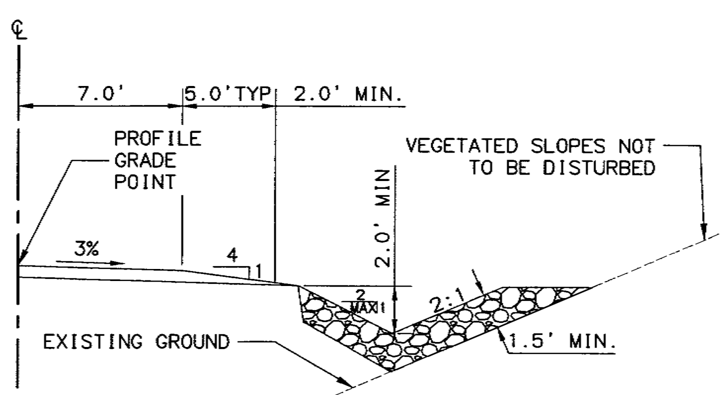
REVISIONS		
No.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	E1	59



TURNOUT DETAIL

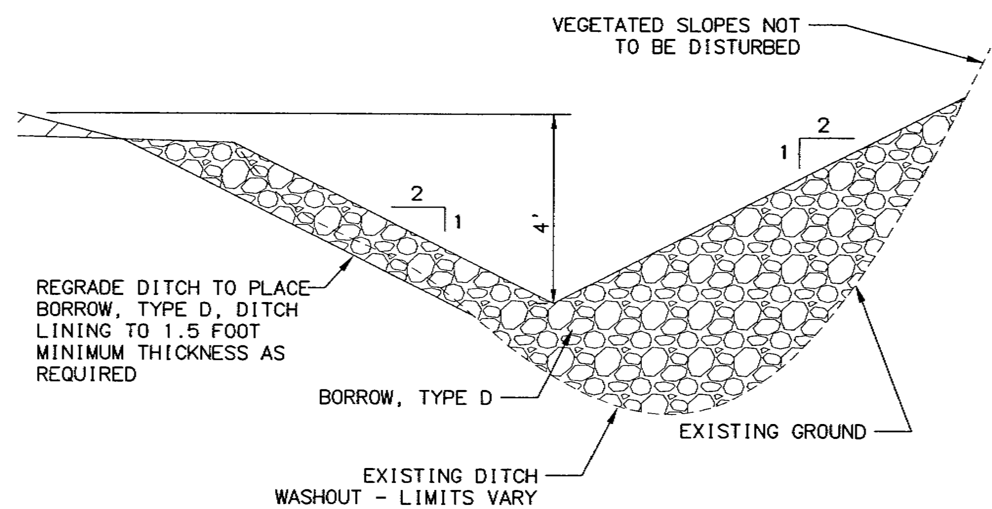
NOT TO SCALE
(MIRROR ABOUT CENTERLINE FOR LEFT OR RIGHT TURNOUT)



1. PLACE BORROW, TYPE D, AS DITCH LINING MATERIAL IN THE RIGHT DITCH. FILL SECTIONS TO MINIMUM LAYER THICKNESS OF 1.5 FEET. FORM A V- DITCH SECTION TO CONVEY DRAINAGE. SEE DITCH LINING SUMMARY, SHEET D4.

DITCH LINING DETAIL

2560+00 TO 2696+25



DITCH REBUILD DETAIL

2545+00 TO 2560+00 RIGHT

1. EXISTING CHECK DAMS MAY REMAIN, PROVIDED THEY FUNCTION ALONGSIDE THE PLANNED DRAINAGE DESIGN, AND FIT THE PLACEMENT AND DESIGN PARAMETERS SHOWN IN THE DETAILS ON SHEET E3, AS DETERMINED BY THE ENGINEER.

TURNOUT LOCATIONS

STATION	OFFSET
2563+50	RT
2574+25	RT
2584+50	RT
2593+50	RT
2600+50	RT
2607+25	RT
2614+25	RT
2623+50	RT
2630+50	RT
2640+75	RT
2649+25	RT
2656+50	RT
2662+50	RT
2670+50	RT
2677+50	RT
2684+50	RT
2691+75	RT
2698+50	LT
2704+25	LT
2710+25	LT
2720+00	LT
2730+25	LT
2738+00	LT
2749+00	LT
2757+50	LT
2765+00	LT
2771+00	LT
2779+50	LT
2788+50	LT
2798+50	LT
2808+00	LT
2818+00	LT
2826+50	LT
2833+00	LT
2843+00	LT
2850+00	LT
2860+25	LT
2870+00	LT
2878+00	LT
2885+50	LT
2894+50	LT
2901+50	RT
2911+50	LT
2920+50	RT
2929+50	LT

STATE OF ALASKA
49TH
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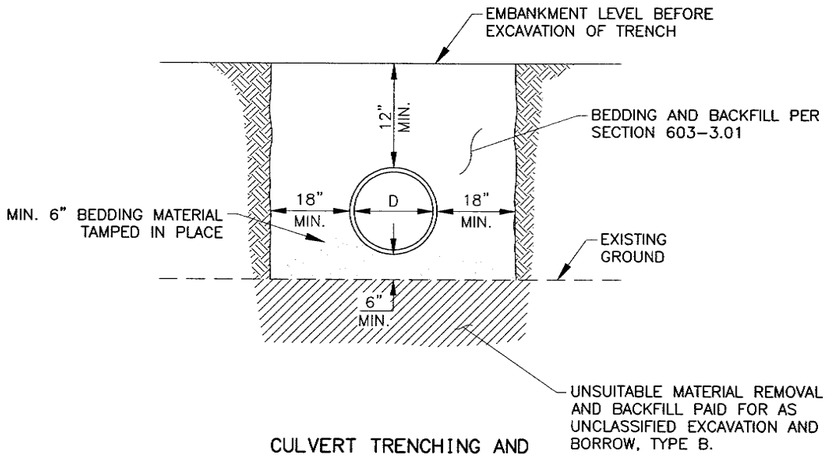
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

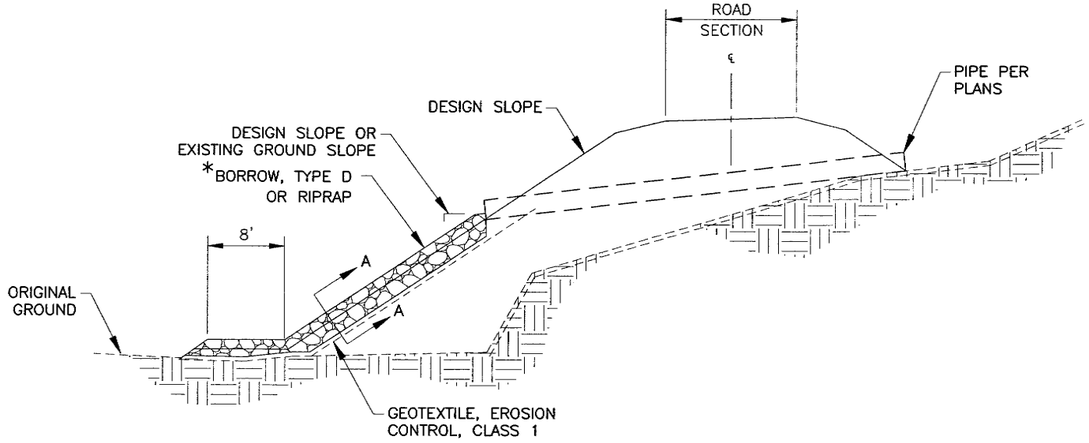
DETAILS

Plotted by: kblair   Plotted: Aug 26, 2010 . 11:09am

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	E2	59



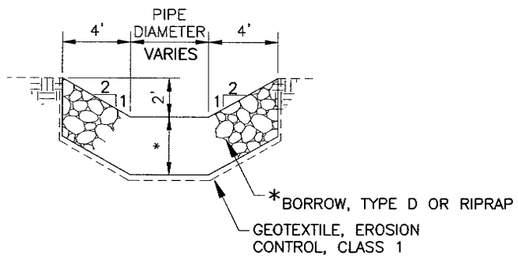
CULVERT TRENCHING AND BEDDING DETAIL
NOT TO SCALE



SPILLWAY DETAIL
NOT TO SCALE

* 1.5' – BORROW, TYPE D
6.0' – RIPRAP

SEE SPILLWAY SUMMARY.



SECTION A-A
NOT TO SCALE

STATE OF ALASKA 49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
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KING COVE ACCESS ROAD COMPLETION

DETAILS

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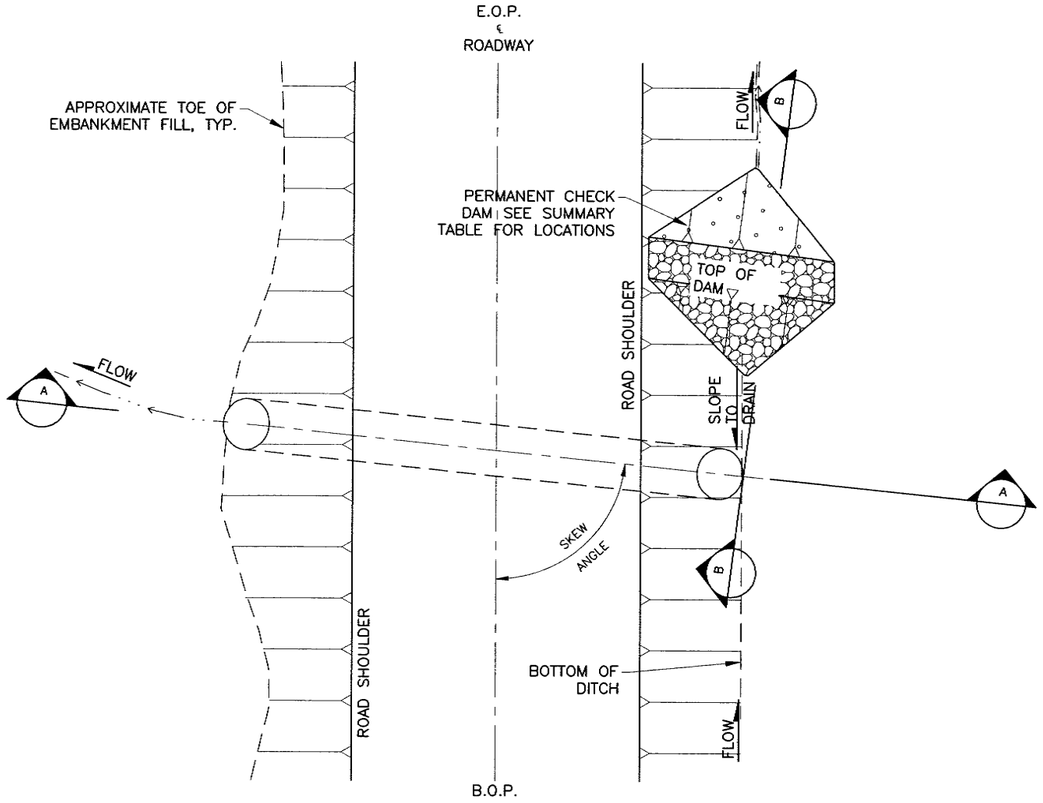
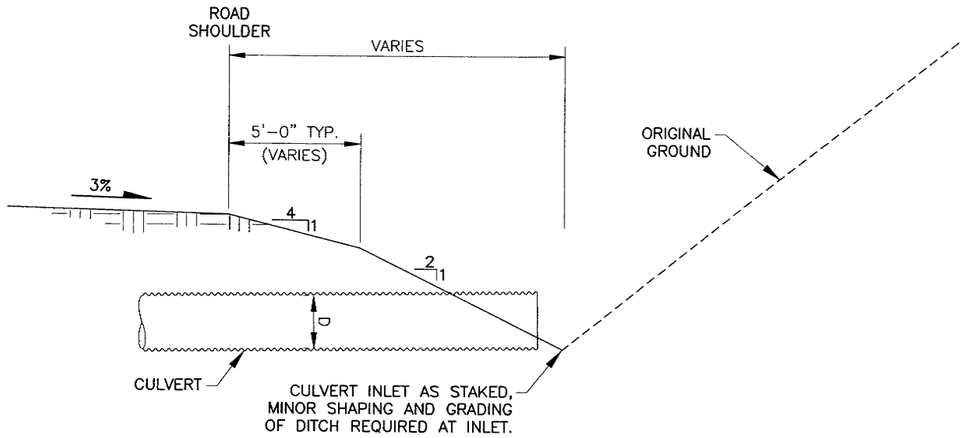
COMPUTER DESIGNATION

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	E3	59



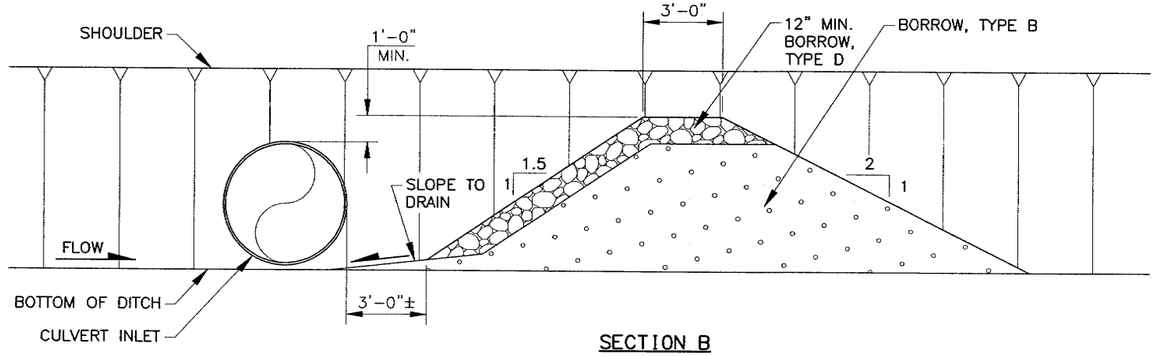
CULVERT INLET PLAN

NOT TO SCALE



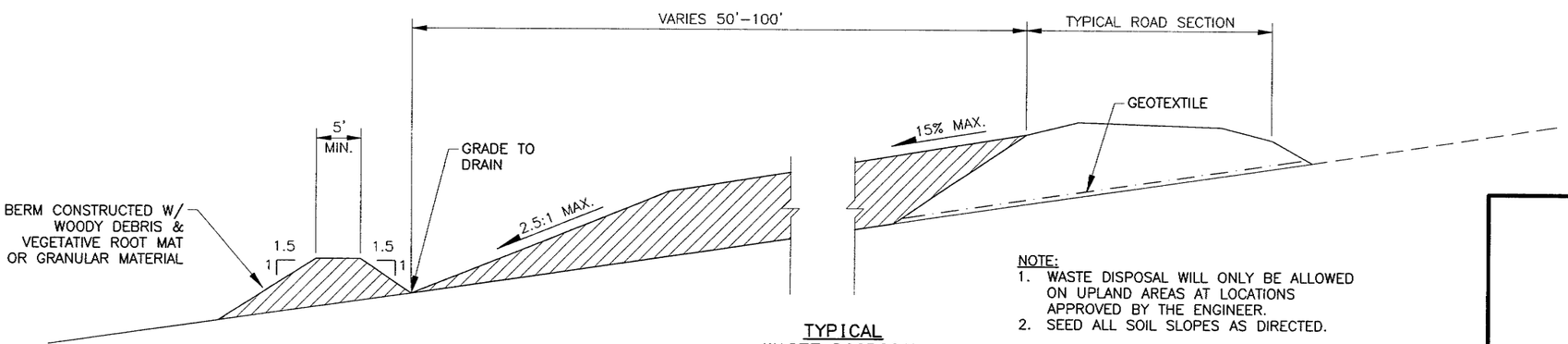
SECTION A

NOT TO SCALE



SECTION B

NOT TO SCALE



TYPICAL WASTE DISPOSAL

NOT TO SCALE

NOTE:
1. WASTE DISPOSAL WILL ONLY BE ALLOWED ON UPLAND AREAS AT LOCATIONS APPROVED BY THE ENGINEER.
2. SEED ALL SOIL SLOPES AS DIRECTED.

STATE OF ALASKA
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KING COVE ACCESS ROAD COMPLETION

DETAILS

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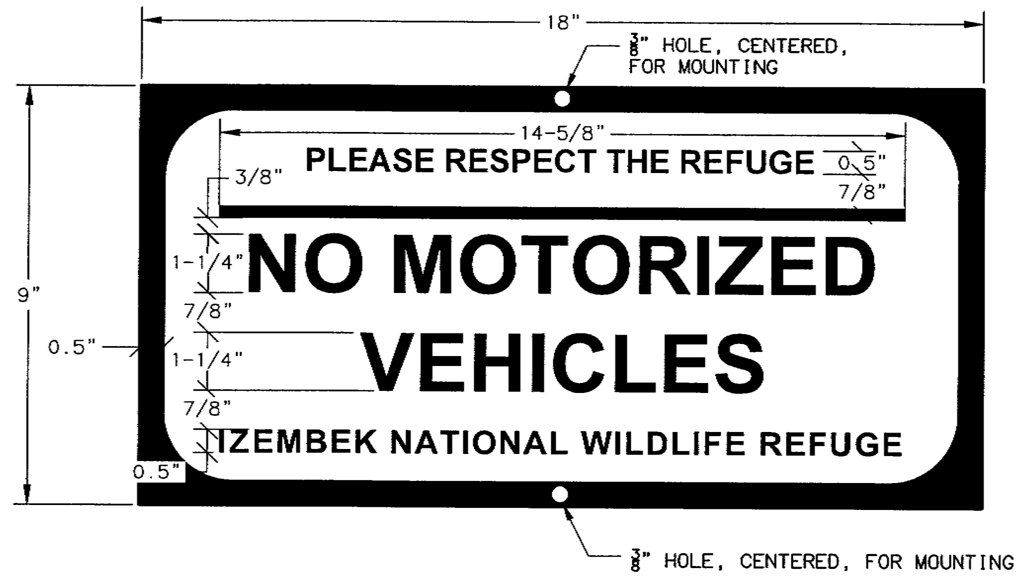
DRAFTED BY
Aug 26, 2010

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	E4	59

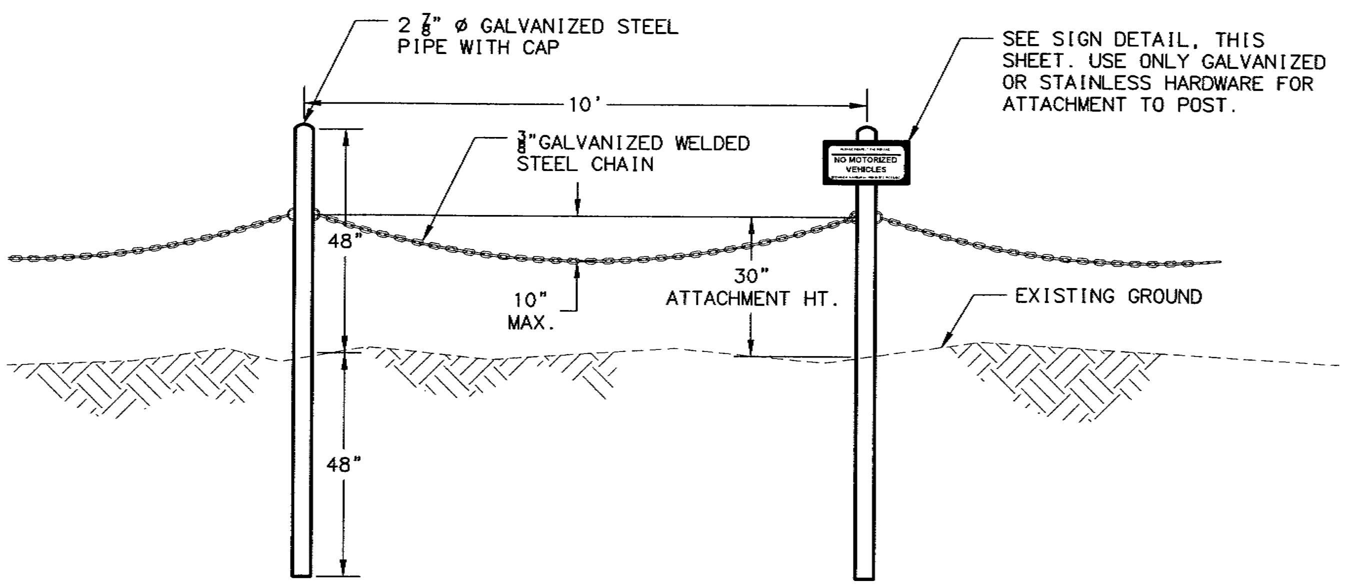
REVISIONS

No.	DATE	DESCRIPTION



NOTE:
1. INSTALL SIGN AT 500 FT INTERVALS.

SIGN DETAIL
NOT TO SCALE

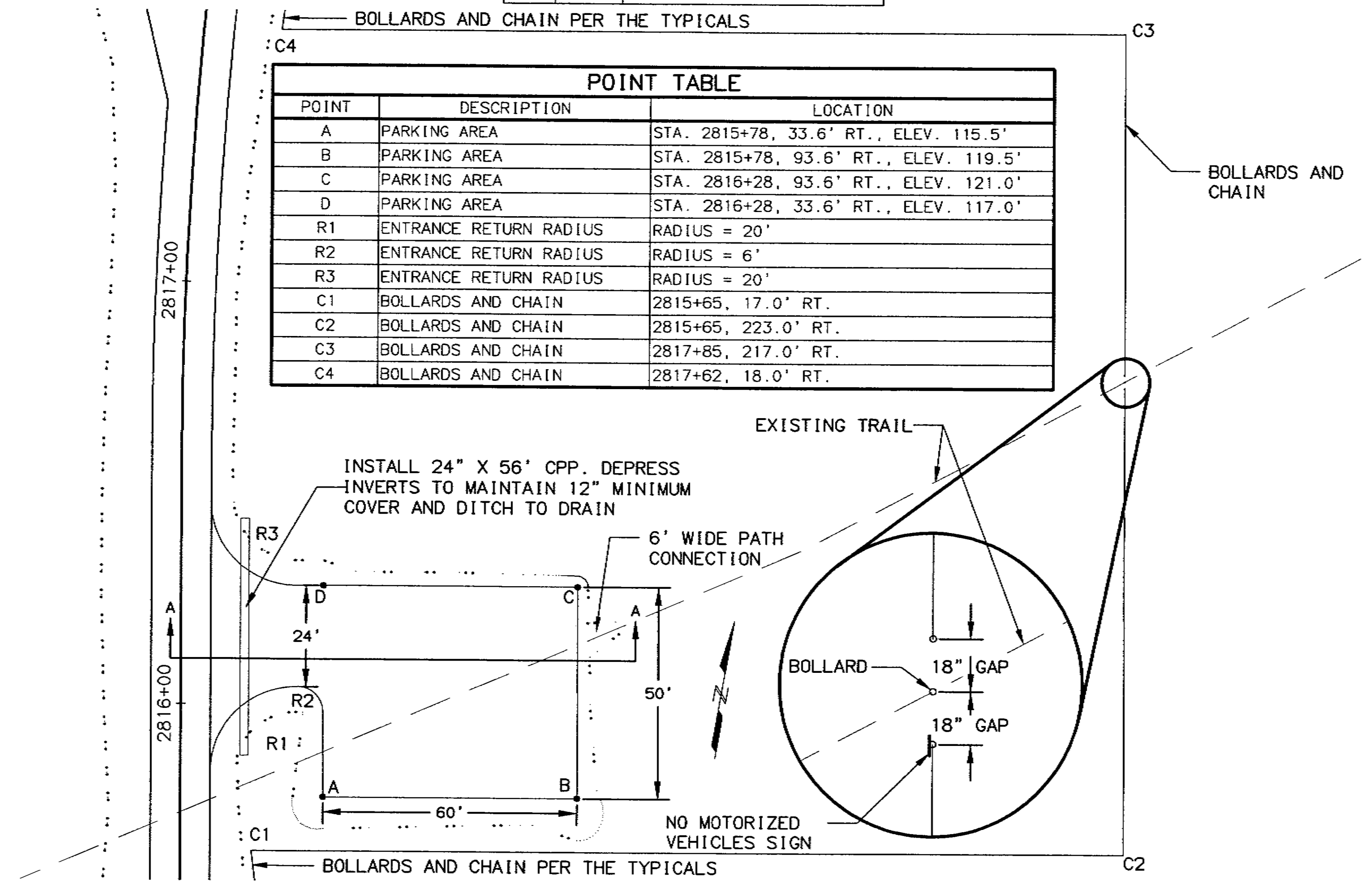


NOTES
1. GALVANIZED CHAIN MUST BE ATTACHED TO EACH POST.
2. ADDITIONAL CHAINS BETWEEN POSTS MAY BE REQUIRED TO PREVENT VEHICLE PASSAGE THROUGH LOW POINTS ALONG THE RUN.
3. USE ONLY GALVANIZED OR STAINLESS STEEL HARDWARE OR WELD CHAIN TO POSTS.
4. TACK WELD EACH POST CAP.

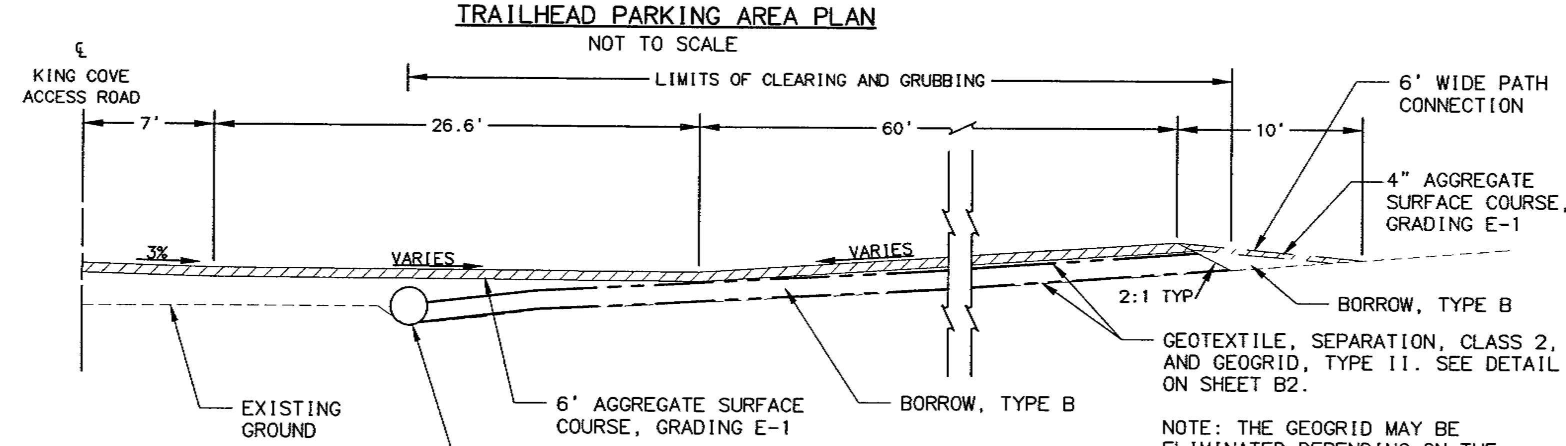
BOLLARD WITH CHAIN DETAIL
NOT TO SCALE

POINT TABLE

POINT	DESCRIPTION	LOCATION
A	PARKING AREA	STA. 2815+78, 33.6' RT., ELEV. 115.5'
B	PARKING AREA	STA. 2815+78, 93.6' RT., ELEV. 119.5'
C	PARKING AREA	STA. 2816+28, 93.6' RT., ELEV. 121.0'
D	PARKING AREA	STA. 2816+28, 33.6' RT., ELEV. 117.0'
R1	ENTRANCE RETURN RADIUS	RADIUS = 20'
R2	ENTRANCE RETURN RADIUS	RADIUS = 6'
R3	ENTRANCE RETURN RADIUS	RADIUS = 20'
C1	BOLLARDS AND CHAIN	2815+65, 17.0' RT.
C2	BOLLARDS AND CHAIN	2815+65, 223.0' RT.
C3	BOLLARDS AND CHAIN	2817+85, 217.0' RT.
C4	BOLLARDS AND CHAIN	2817+62, 18.0' RT.



TRAILHEAD PARKING AREA PLAN
NOT TO SCALE



NOTE: THE GEOGRID MAY BE ELIMINATED DEPENDING ON THE CONDITIONS IN THE FIELD, IF APPROVED IN WRITING BY THE ENGINEER.

SECTION A-A
NOT TO SCALE

STATE OF ALASKA 49TH Steven M. Kori No. CE 9203 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

DETAILS

Plotted by: kblair Plotted: Sep 17, 2010 , 1:27pm
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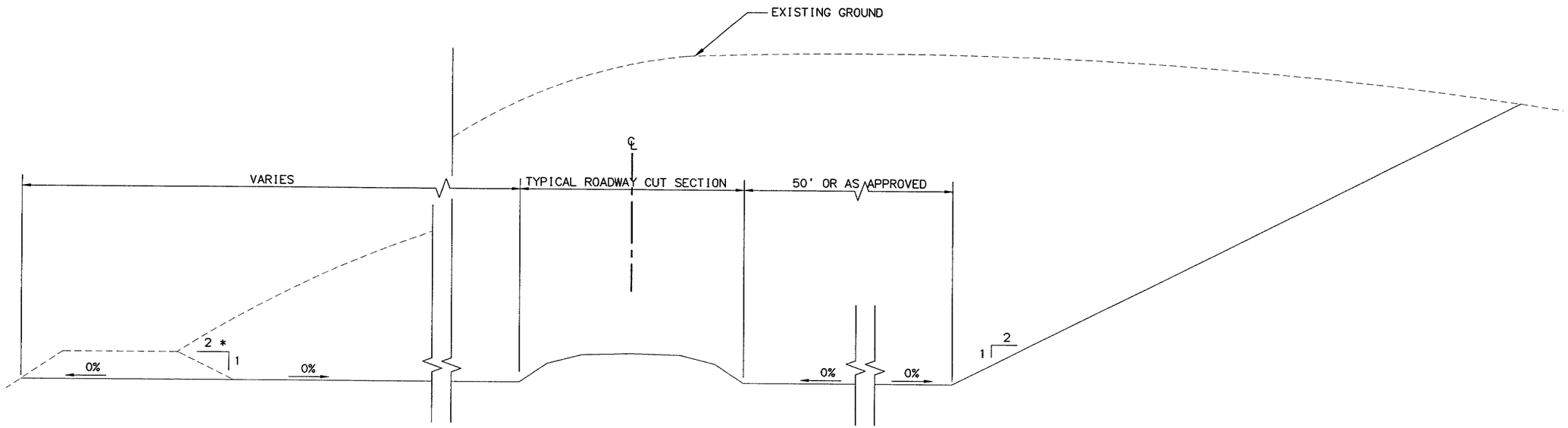
REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	E5	59



* ALTERNATIVE SLOPE IF DAYLIGHTING NOT FEASIBLE WHERE TERRAIN FLATTENS.

DEVELOPMENT TYPICAL SECTION

2698+00 TO 2699+75

NOTES:

1. WITH THE WRITTEN APPROVAL OF THE ENGINEER, THE ROADWAY PROFILE MAY BE LOWERED IN LIEU OF, OR IN ADDITION TO, THE WIDENING/DAYLIGHTING.
2. THE CONTRACTOR WILL BE REQUIRED TO DEVELOP A PLAN TO CONTROL THE NEW DRAINAGE REQUIREMENTS OF THE SITE, AND HOW THE SLOPES AND SITE FLOOR WILL BE STABILIZED. THIS PLAN IS SUBJECT TO THE ENGINEER'S APPROVAL.

STATE OF ALASKA 49 St
Steven M. Kori
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AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

CONCEPTUAL MINING PLAN

Plotted by: kblair Plotted: Aug 26, 2010 , 11:14am
CTB:
DESIGNED BY:
CHECKED BY:
DRAFTED BY:
PLOT SCALE: 1
VIEW=
Aug 26, 2010
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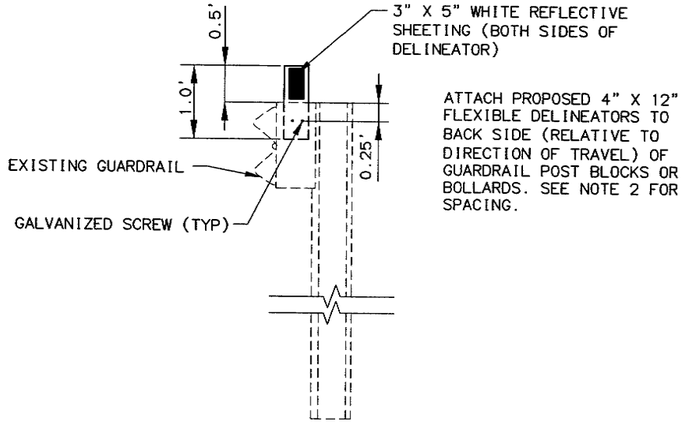
REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	E6	59

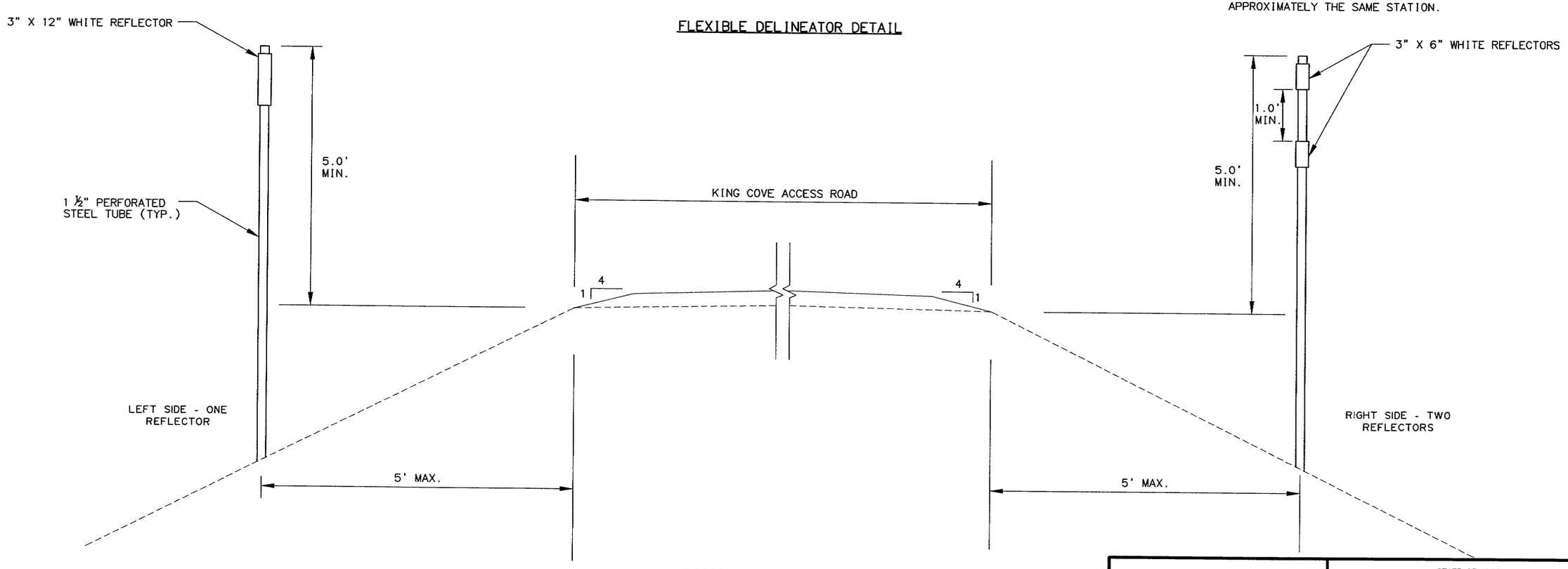


ATTACH PROPOSED 4" X 12" FLEXIBLE DELINEATORS TO BACK SIDE (RELATIVE TO DIRECTION OF TRAVEL) OF GUARDRAIL POST BLOCKS OR BOLLARDS. SEE NOTE 2 FOR SPACING.

NOTES:

1. 5' OFFSET FOR DELINEATORS IS MAX. FINAL LOCATIONS TO BE DETERMINED BY THE ENGINEER PRIOR TO INSTALLATION.
2. DELINEATORS SHALL BE SPACED 200' ON THE TANGENTS AND 50' ON THE CURVES.
3. DELINEATORS SHALL NOT BE PLACED IN THE DITCHLINE AND SHOULD BE LOCATED 2' ABOVE THE DITCHLINE IN THE BACKSLOPE WHERE POSSIBLE.
4. ENSURE THAT THE DELINEATORS HAVE A UNIFORM APPEARANCE. THIS MAY REQUIRE OFFSET TRANSITIONS TO ACHIEVE THE UNIFORMITY.
5. THE RIGHT AND LEFT DELINEATORS SHALL BE LOCATED ACROSS FORM EACH OTHER AT APPROXIMATELY THE SAME STATION.

FLEXIBLE DELINEATOR DETAIL



RIGID DELINEATOR DETAIL

STATE OF ALASKA
49TH
Steven M. Kori
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REGISTERED PROFESSIONAL ENGINEER

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STATE OF ALASKA
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KING COVE ACCESS ROAD COMPLETION

DELINEATOR DETAILS

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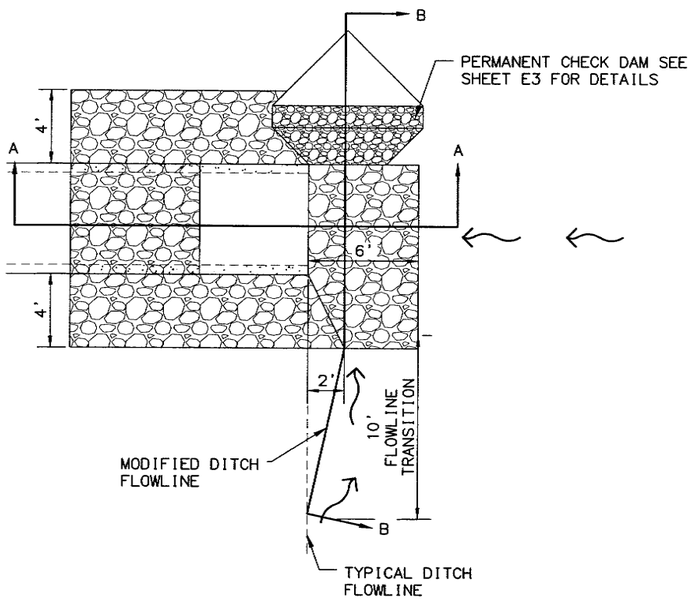
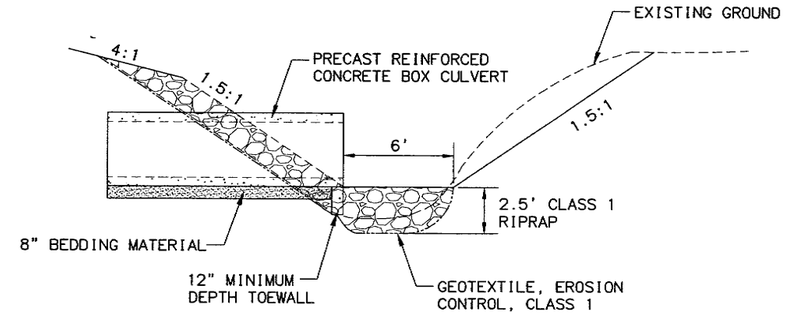
Aug. 26, 2010

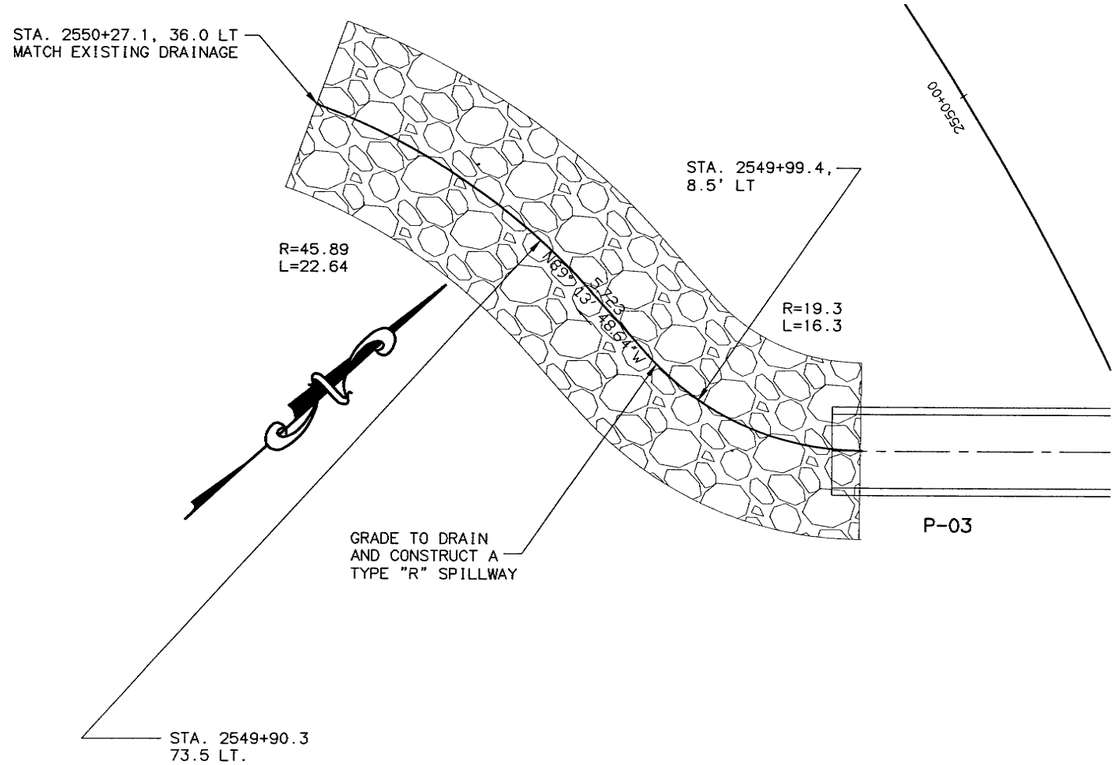
REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	E7	59



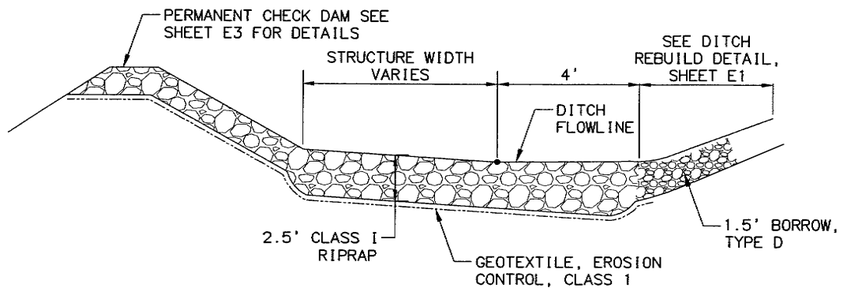
REINFORCED CONCRETE BOX CULVERT - PLAN VIEW



REINFORCED CONCRETE BOX CULVERT - SECTION A-A



P-03 SPILLWAY DETAIL



REINFORCED CONCRETE BOX CULVERT - SECTION B-B

STATE OF ALASKA
49TH
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PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

REINFORCED CONCRETE BOX CULVERT DETAILS

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DESIGNED BY
CHECKED BY
DRAFTED BY Aug 26, 2010
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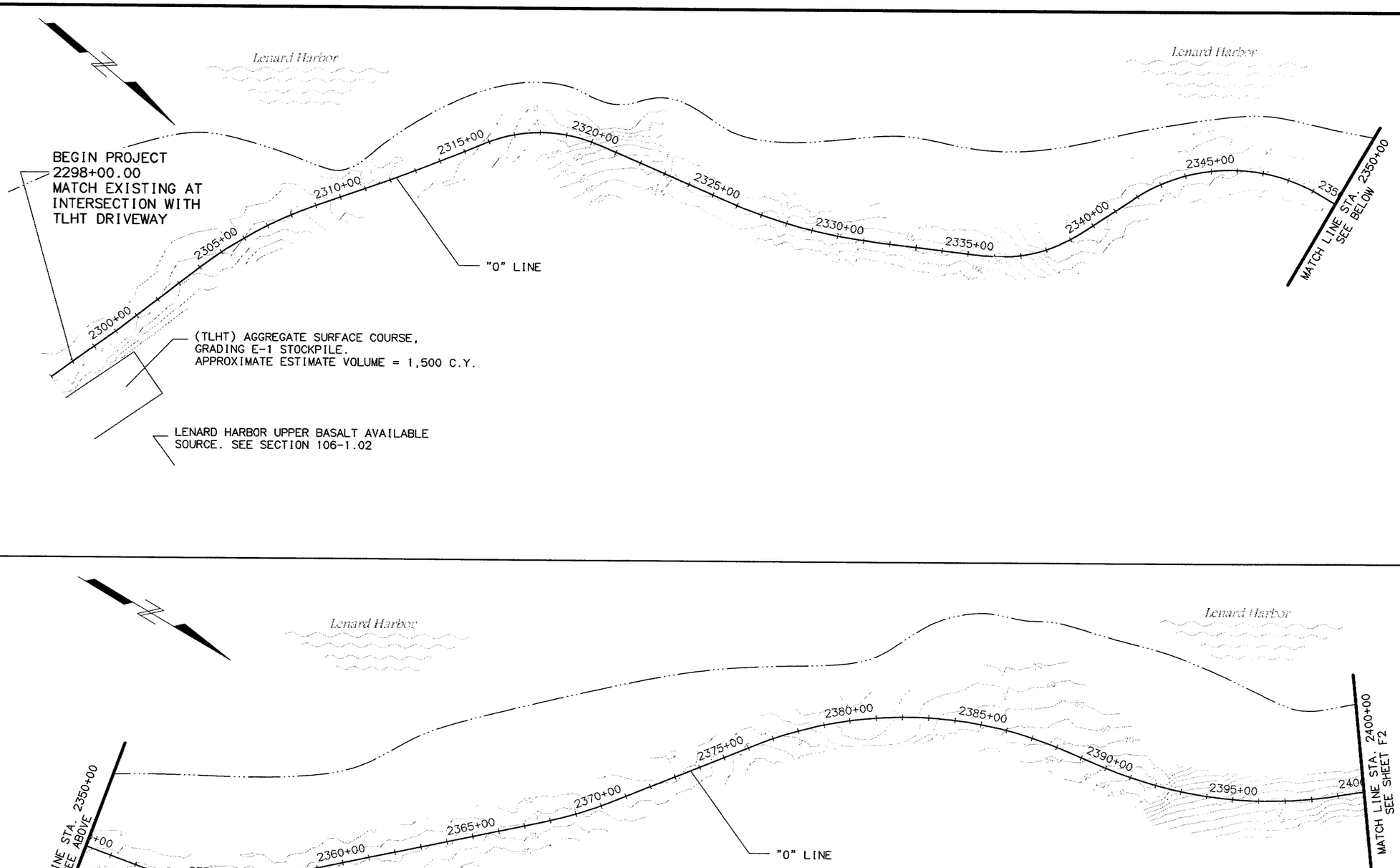


SHEET NO.	TOTAL SHEETS
F1	59
STATE	YEAR
ALASKA	2010

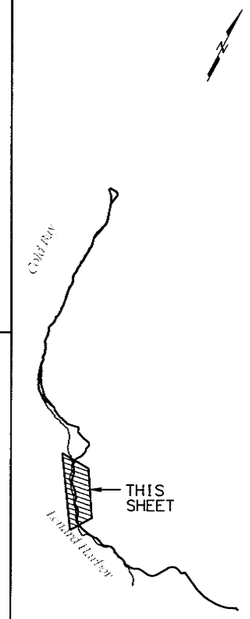
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



BLASTING NOTES:

1. NO BLASTING WILL OCCUR DURING THE BEAR DENNING PERIOD OR WHEN THERE ARE THREATENED OR ENDANGERED SPECIES OR MARINE MAMMALS WITHIN ONE QUARTER MILE OF THE QUARRY SITE. THE BEAR DENNING PERIOD IS DEFINED AS OCTOBER 21 THROUGH JUNE 15 UNLESS AN ALTERNATE AGREEMENT IS OBTAINED IN WRITING FROM ADF&G AND USFWS.
2. CHARGES WILL BE STAGGERED TO REDUCE THE MAGNITUDE OF ANY PARTICULAR BLAST.
3. A QUARRY RECLAMATION PLAN WILL BE DEVELOPED AND IMPLEMENTED AS SPECIFIED IN SECTION 106-1.02, PARGRAPH 5. AT THE CONCLUSION OF QUARRYING AND CRUSHING OPERATIONS, THE SITE WILL BE GRADED TO DRAIN, SLOPES WILL BE STABILIZED AND ALL DISTURBED AREAS REVEGETATED.

NOTES:

1. THE "0" LINE REPRESENTS THE ORIGINAL DESIGN ALIGNMENT FROM THE BOP TO THE BEGINNING OF THE DESIGN ALIGNMENT. NO AS-BUILT SURVEY EXISTS AND THE EXISTING ROADWAY MAY DEVIATE SUBSTANTIALLY AT ANY GIVEN LOCATION. THE "0" LINE IS INTENDED ONLY TO PROVIDE A BASIS OF ESTIMATE FOR THE AGGREGATE SURFACE COURSE REQUIRED FROM STATION 2298+00 TO 2540+00. THE ACTUAL QUANTITY WILL BE MEASURED AND PAID AS SPECIFIED. CONSTRUCT THE AGGREGATE SURFACE COURSE TO MATCH EXISTING ROADWAY WIDTH AND GRADES AS SHOWN IN THE TYPICAL SECTIONS.
2. VEGETATED SLOPES OUTSIDE PROJECT FOOTPRINT SHALL NOT BE DISTURBED. (TYPICAL ALL SHEETS)

STATE OF ALASKA
49 TH.
Steven M. Keri
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

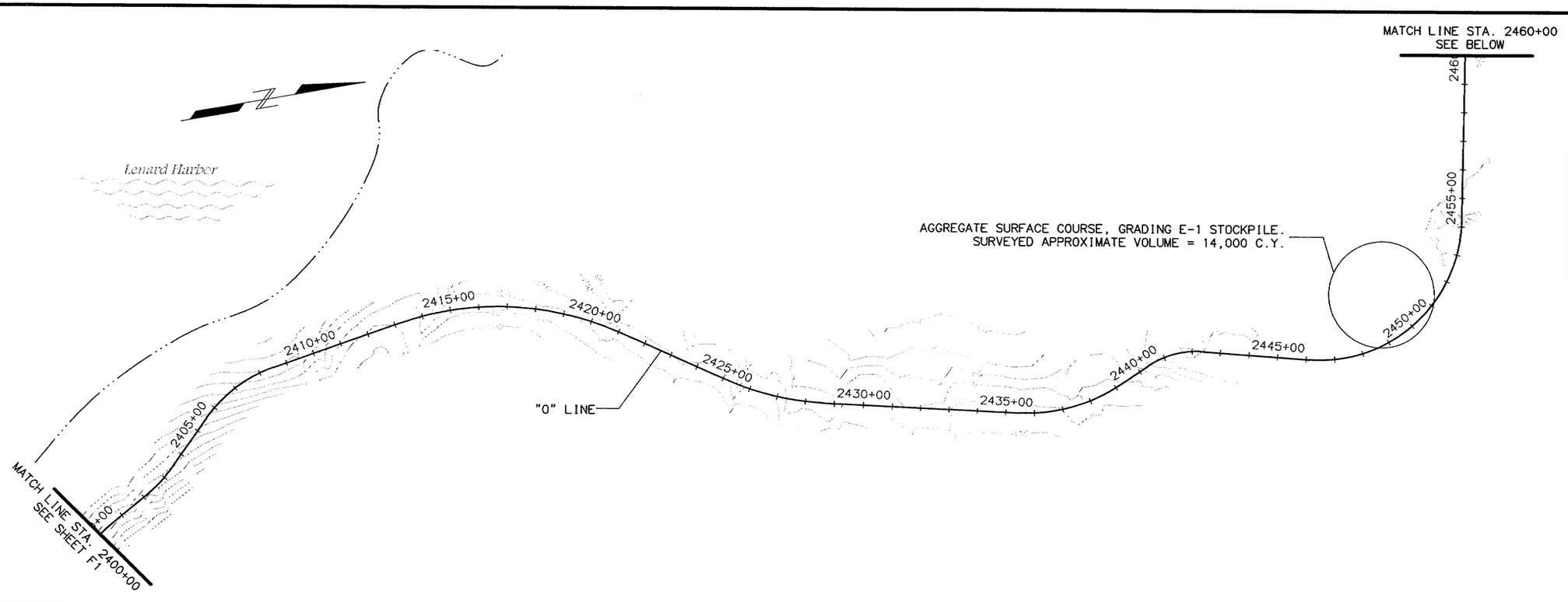
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

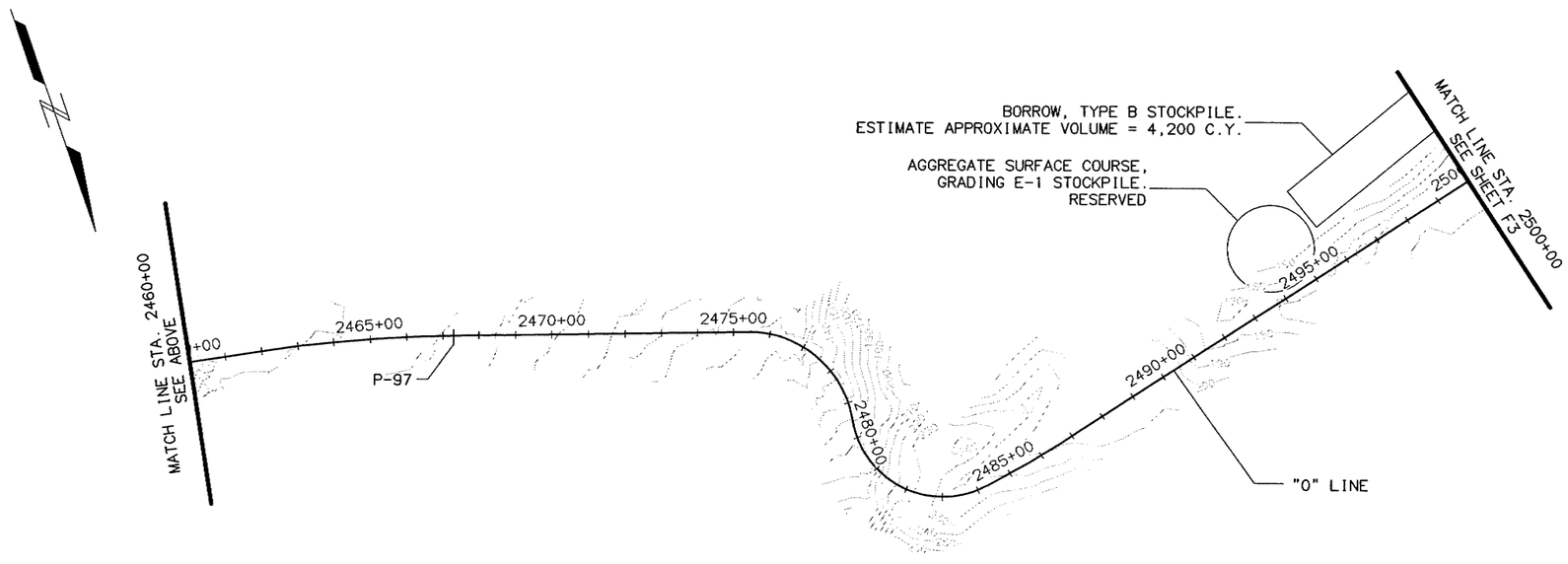
KING COVE ACCESS ROAD COMPLETION

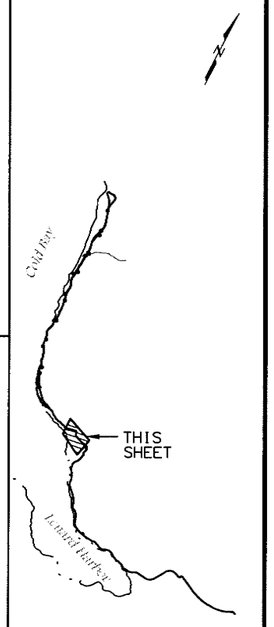
PLAN AND PROFILE
B.O.P.
TO
STA. 2400+00

Plotted: Aug 26, 2010 , 11:21am
Plotted by: kblair

DESIGNED BY	
CHECKED BY	
DRAFTED BY	Aug 26, 2010
PLOT SCALE:	1
CTB:	
XREFS:	
SCALE: 1"	
COMPUTER DESIGNATION	I:\1177500\Dwgs\C\Sheets\1177500-F1.dwg/TOW







SHEET NO.	TOTAL SHEETS
F2	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

PLAN AND PROFILE
STA. 2400+00
TO
STA. 2500+00

Plotted: Sep 01, 2010 - 8:47am
Plotted by: chakari

DESIGNED BY	
CHECKED BY	
DRAFTED BY	Sep 01, 2010
SCALE: 1	
CTB:	
PLOT SCALE:	
XREFS:	
SCALE 1"=	
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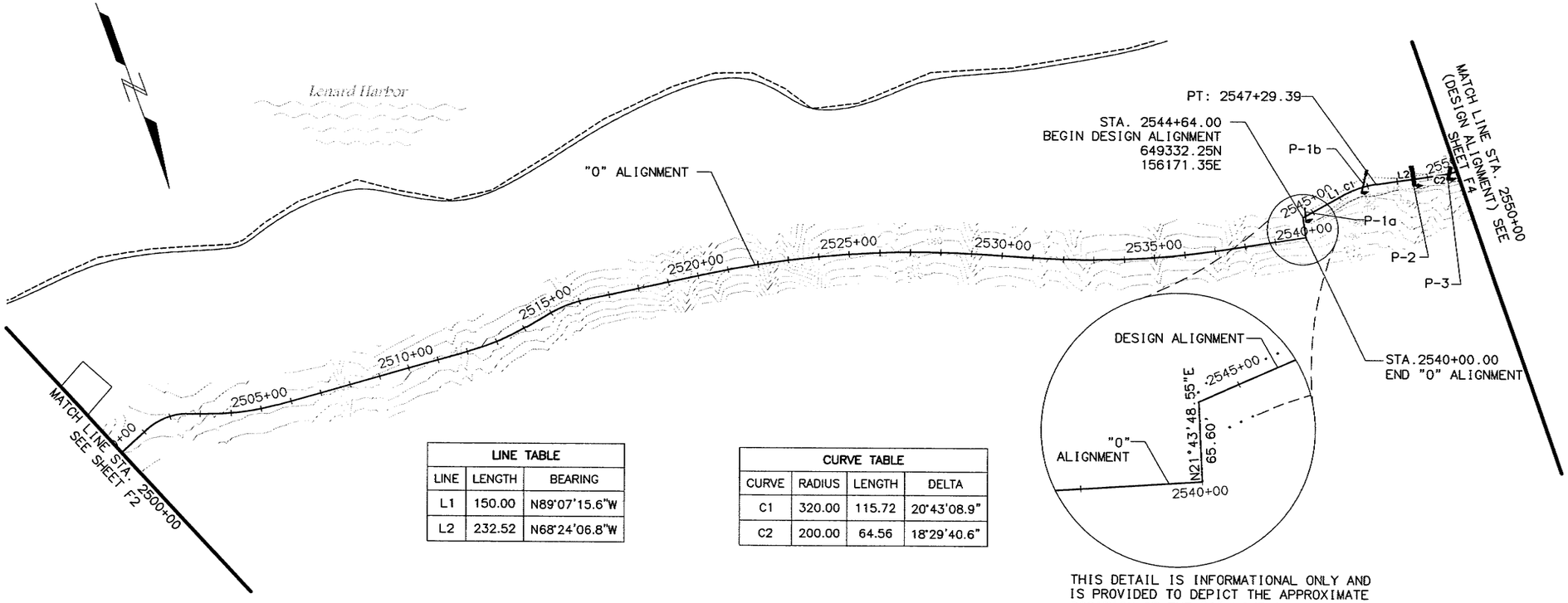
VIEW:	



LINE TABLE		
LINE	LENGTH	BEARING
L1	150.00	N89°07'15.6"W
L2	232.52	N68°24'06.8"W

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	320.00	115.72	20°43'08.9"
C2	200.00	64.56	18°29'40.6"

THIS DETAIL IS INFORMATIONAL ONLY AND IS PROVIDED TO DEPICT THE APPROXIMATE POSITION OF THE "0" LINE IN RELATION TO THE BEGINNING OF THE DESIGN LINE.

SHEET NO.	TOTAL SHEETS
F3	59
STATE	YEAR
ALASKA	2010

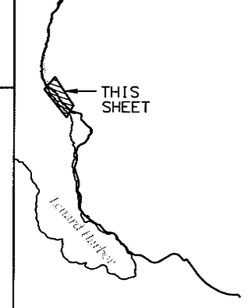
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



STATE OF ALASKA
49TH
Steven M. Kari
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

PLAN AND PROFILE
STA. 2500+00
TO
STA. 2545+00

Plotted by: kblair Plotted: Aug 26, 2010 , 2:12pm

CTB:	DESIGNED BY	
PLOT SCALE: 35	CHECKED BY	
PLOTVIEW:	DRAFTED BY	Aug 26, 2010
XREFS:		
SCALE 1=		
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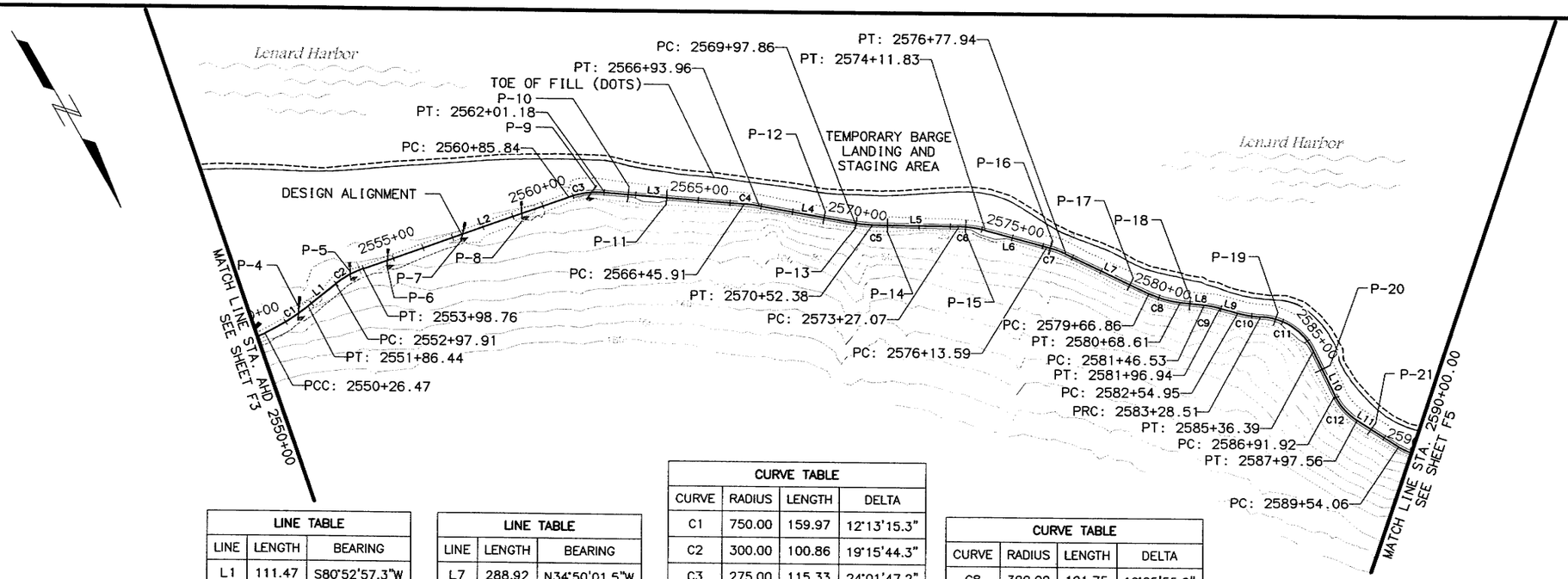
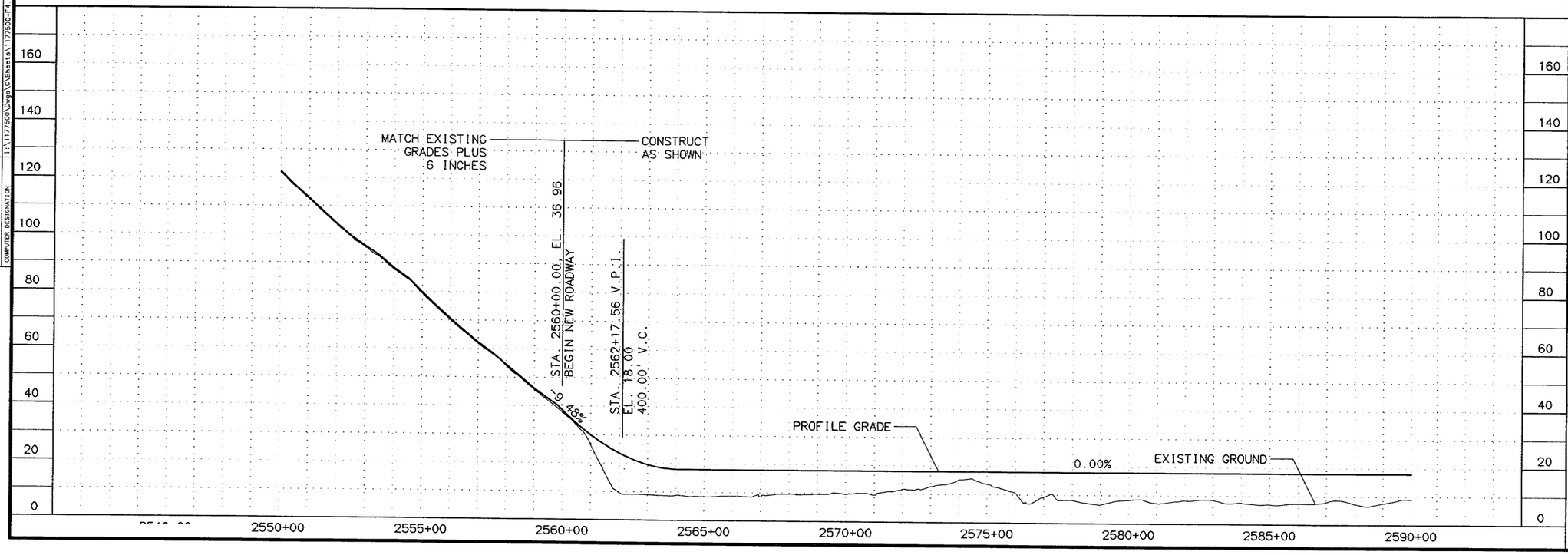


LINE TABLE		
LINE	LENGTH	BEARING
L1	111.47	S80°52'57.3"W
L2	687.08	N79°51'18.3"W
L3	444.73	N55°49'31.1"W
L4	303.89	N50°19'06.0"W
L5	274.69	N59°14'36.7"W
L6	201.76	N45°22'02.0"W

LINE TABLE		
LINE	LENGTH	BEARING
L7	288.92	N34°50'01.5"W
L8	77.92	N54°15'56.5"W
L9	58.01	N44°38'16.7"W
L10	155.53	N4°00'00.6"E
L11	156.50	N27°51'26.9"W

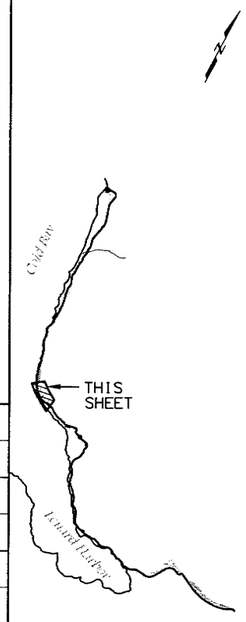
CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	750.00	159.97	12°13'15.3"
C2	300.00	100.86	19°15'44.3"
C3	275.00	115.33	24°01'47.2"
C4	500.00	48.06	5°30'25.1"
C5	350.00	54.52	8°55'30.7"
C6	350.00	84.77	13°52'34.7"
C7	350.00	64.35	10°32'00.5"

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C8	300.00	101.75	19°25'55.0"
C9	300.00	50.41	9°37'39.8"
C10	300.00	73.56	14°02'56.5"
C11	190.00	207.88	62°41'13.9"
C12	190.00	105.64	31°51'27.5"



SHEET NO.	TOTAL SHEETS
F4	59
STATE	YEAR
ALASKA	2010
PROJECT DESIGNATION	
ADDENDUM NO.	
ATTACHMENT NO.	

REVISIONS		
NO.	DATE	DESCRIPTION



STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

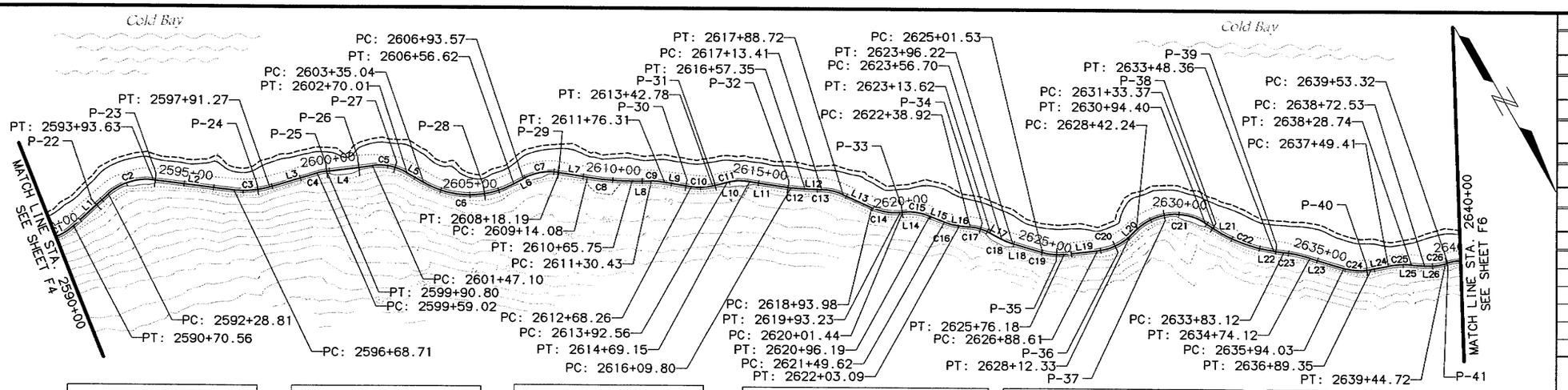
PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

PLAN AND PROFILE
STA. 2545+00
TO
STA. 2590+00

Plotted by: chakari Plotted: Sep 13, 2010 , 11:45am
CTB:
PLOT SCALE: 35
PLOT VIEW:
XREFS:
I:\1177500\Dwgs\CS\Sheets\1177500-F4.dwg
SCALE: 1"
COMPUTER DESIGNATION:
DESIGNED BY
CHECKED BY
DRAFTED BY
Sep 13, 2010



LINE TABLE		
LINE	LENGTH	BEARING
L1	158.25	N62°59'10.4"W
L2	275.07	N13°16'55.1"W
L3	167.75	N36°41'21.7"W
L4	156.30	N27°06'25.0"W
L5	65.03	N9°57'28.2"E
L6	36.95	N48°43'16.7"W
L7	95.89	N11°08'24.2"W
L8	64.68	N19°49'48.0"W
L9	91.95	N11°04'04.1"W
L10	49.78	N33°32'28.5"W

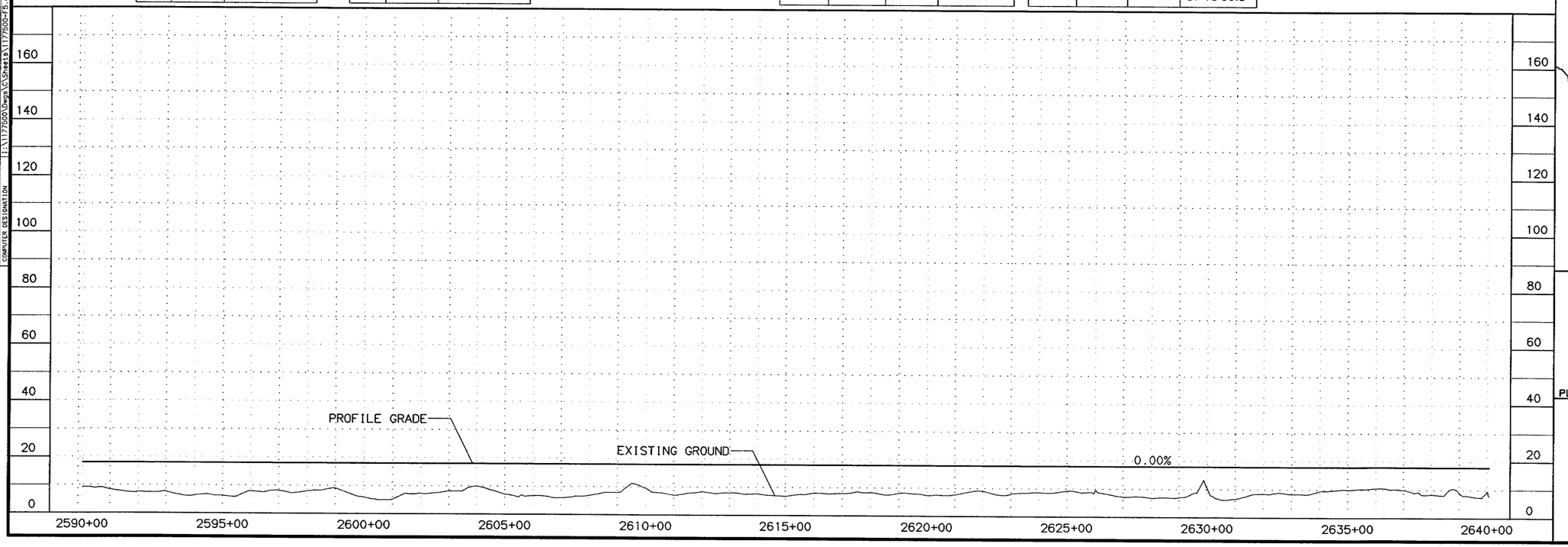
LINE TABLE		
LINE	LENGTH	BEARING
L11	140.65	N11°36'00.1"W
L12	56.06	N18°24'40.3"W
L13	105.26	N4°18'01.2"E
L14	8.21	N25°37'42.2"W
L15	53.42	N1°31'03.6"E
L16	35.83	N14°36'24.5"W
L17	43.09	N7°55'08.0"E
L18	105.31	N3°59'48.4"W
L19	112.42	N26°30'31.7"W
L20	29.91	N63°49'05.5"W

LINE TABLE		
LINE	LENGTH	BEARING
L21	38.96	N12°13'27.0"E
L22	34.76	N12°24'42.2"W
L23	119.91	N3°43'17.0"W
L24	60.06	N31°01'40.4"W
L25	43.80	N15°52'42.8"W
L26	8.59	N36°33'33.5"W

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	190.00	116.49	35°07'43.5"
C2	190.00	164.83	49°42'15.3"
C3	300.00	122.56	23°24'26.6"
C4	190.00	31.78	9°34'56.7"
C5	190.00	122.91	37°03'53.3"
C6	314.00	321.58	58°40'45.0"
C7	190.00	124.62	37°34'52.5"
C8	1000.00	151.67	8°41'23.8"
C9	300.00	45.88	8°45'43.9"
C10	190.00	74.52	22°28'24.4"

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C11	200.00	76.59	21°56'28.4"
C12	400.00	47.55	6°48'40.2"
C13	190.00	75.31	22°42'41.5"
C14	190.00	99.25	29°55'43.4"
C15	200.00	94.76	27°08'45.7"
C16	190.00	53.47	16°07'28.1"
C17	190.00	74.70	22°31'32.5"
C18	190.00	39.51	11°54'56.4"
C19	190.00	74.65	22°30'43.3"
C20	190.00	123.72	37°18'33.8"

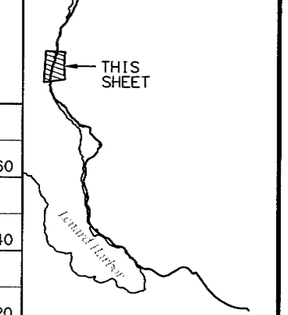
CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C21	190.00	252.17	76°02'32.5"
C22	500.00	214.99	24°38'09.2"
C23	600.00	91.01	8°41'25.2"
C24	200.00	95.32	27°18'23.5"
C25	300.00	79.32	15°08'57.6"
C26	200.00	72.19	20°40'50.7"



SHEET NO.	TOTAL SHEETS
F5	59
STATE	YEAR
ALASKA	2010
PROJECT DESIGNATION	
ADDENDUM NO.	
ATTACHMENT NO.	

REVISIONS

NO.	DATE	DESCRIPTION



STATE OF ALASKA
49TH
Steven M. Kari
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

PLAN AND PROFILE
STA. 2590+00
TO
STA. 2640+00

Plotted by: kblair Plotted: Aug 26, 2010 - 2:16pm
CTB: DESIGNED BY
PLOT SCALE: 35 CHECKED BY
VIEW: DRAFTED BY Aug 26, 2010
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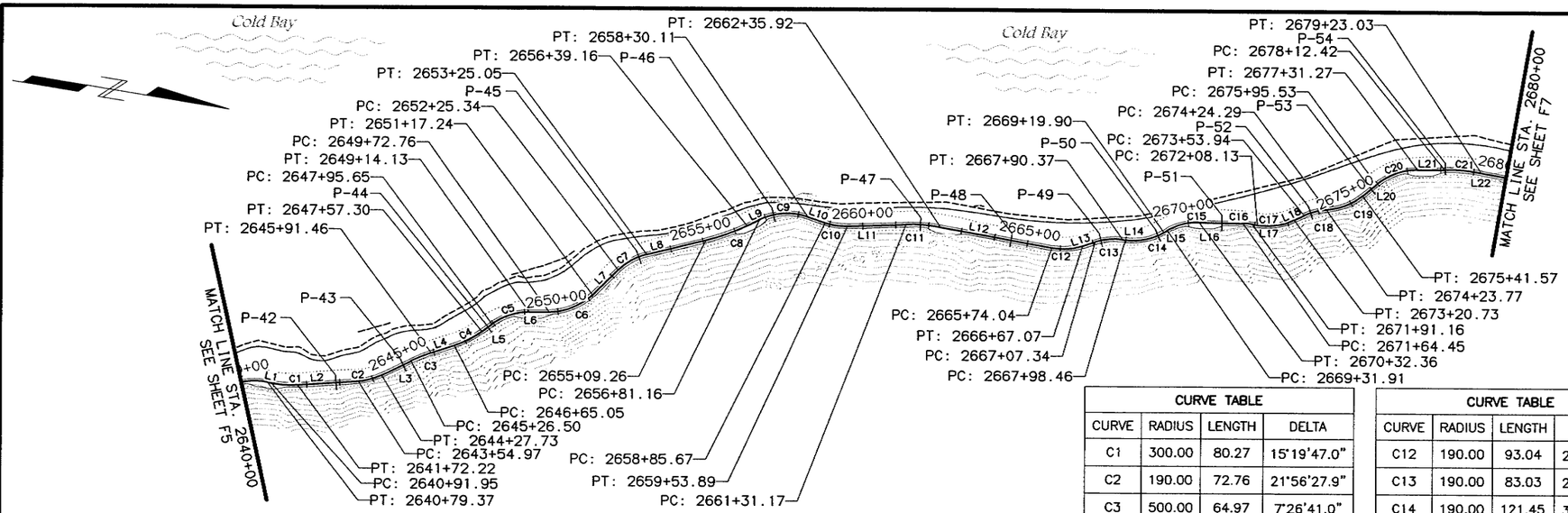
SCALE 1=
COMPUTER DESIGNATION



LINE TABLE		
LINE	LENGTH	BEARING
L1	12.58	N1°27'14.7"E
L2	182.75	N13°52'32.3"W
L3	98.76	N35°49'00.2"W
L4	73.59	N28°22'19.2"W
L5	38.36	N45°59'22.6"W
L6	58.63	N10°15'45.5"W

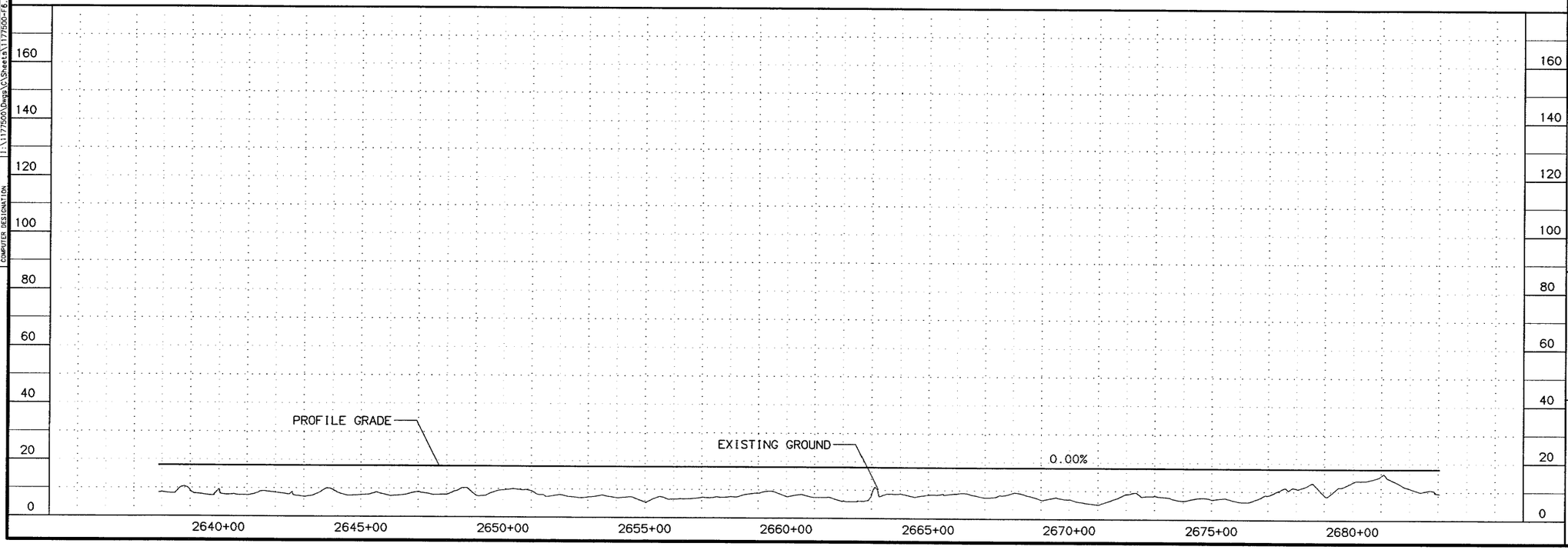
LINE TABLE		
LINE	LENGTH	BEARING
L7	108.11	N53°49'57.3"W
L8	184.21	N23°46'01.6"W
L9	42.00	N36°10'17.3"W
L10	55.57	N8°44'42.1"E
L11	177.28	N11°49'32.0"W
L12	338.12	N0°10'40.6"E

LINE TABLE		
LINE	LENGTH	BEARING
L13	40.27	N27°52'40.7"W
L14	8.09	N2°50'23.9"W
L15	12.01	N39°27'47.2"W
L16	132.09	N9°10'20.4"W
L17	16.98	N1°07'07.5"W
L18	33.21	N35°04'27.2"W

LINE TABLE		
LINE	LENGTH	BEARING
L20	53.95	N49°22'57.8"W
L21	81.15	N10°29'48.1"W
L22	108.20	N0°03'57.6"E

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	300.00	80.27	15°19'47.0"
C2	190.00	72.76	21°56'27.9"
C3	500.00	64.97	7°26'41.0"
C4	300.00	92.25	17°37'03.4"
C5	190.00	118.48	35°43'37.1"
C6	190.00	144.48	43°34'11.8"
C7	190.00	99.70	30°03'55.7"
C8	600.00	129.90	12°24'15.7"
C9	190.00	148.95	44°54'59.4"
C10	190.00	68.21	20°34'14.2"
C11	500.00	104.75	12°00'12.6"

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C12	190.00	93.04	28°03'21.3"
C13	190.00	83.03	25°02'16.8"
C14	190.00	121.45	36°37'23.3"
C15	190.00	100.45	30°17'26.8"
C16	190.00	26.71	8°03'12.9"
C17	190.00	112.60	33°57'19.7"
C18	190.00	69.83	21°03'28.6"
C19	190.00	117.28	35°21'59.2"
C20	200.00	135.74	38°53'09.7"
C21	600.00	110.61	10°33'45.6"



SHEET NO.	TOTAL SHEETS
F6	59
STATE	YEAR
ALASKA	2010

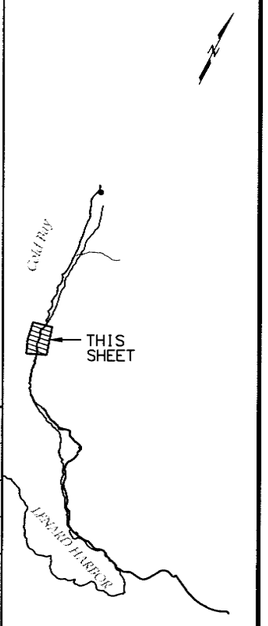
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

PLAN AND PROFILE
STA. 2640+00
TO
STA. 2680+00

Plotted by: kblair Plotted: Aug 26, 2010 , 2:18pm
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
CTB:
PLOT SCALE: 35
SCALE 1"=
COMPUTER DESIGNATION
XREFS:
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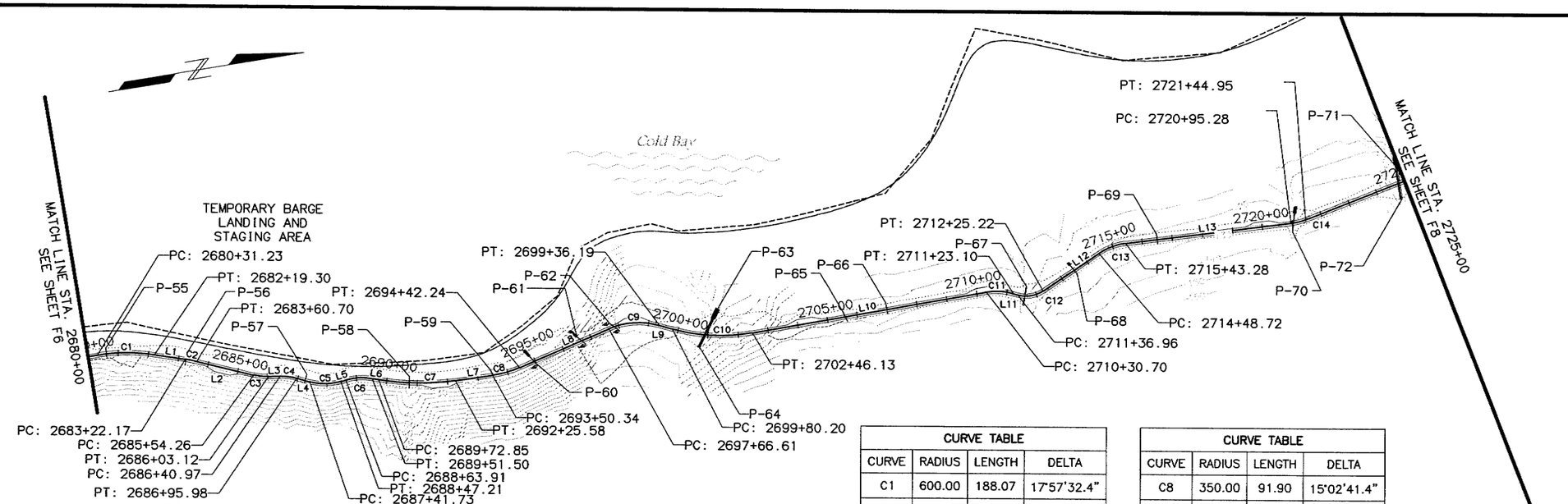


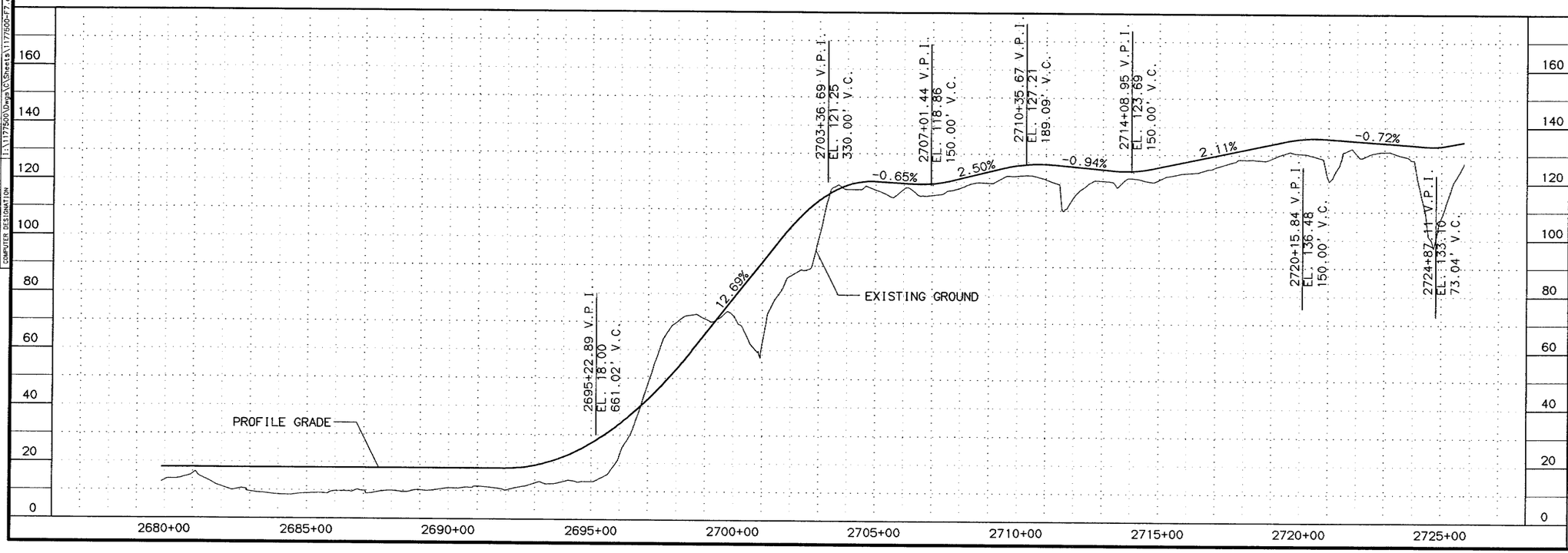
LINE TABLE		
LINE	LENGTH	BEARING
L1	102.87	N18°01'29.9"E
L2	193.57	N22°55'49.0"E
L3	37.85	N8°11'49.1"E
L4	45.75	N24°47'10.9"E
L5	16.70	N7°01'20.0"W

LINE TABLE		
LINE	LENGTH	BEARING
L6	21.35	N19°23'26.3"E
L7	124.75	N1°17'23.6"E
L8	324.37	N13°45'17.7"W
L9	44.01	N25°06'34.1"E
L10	784.56	N0°17'06.4"W

LINE TABLE		
LINE	LENGTH	BEARING
L11	13.86	N26°11'11.7"E
L12	223.50	N24°22'59.4"W
L13	552.00	N2°42'17.3"E

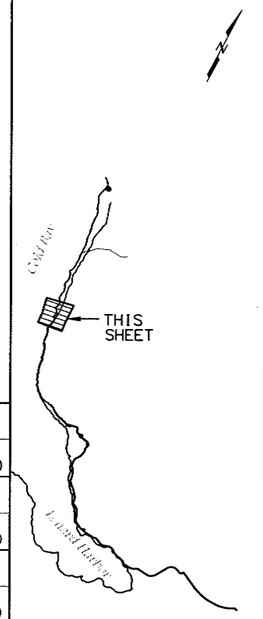
CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	600.00	188.07	17°57'32.4"
C2	450.00	38.53	4°54'19.1"
C3	190.00	48.86	14°43'59.9"
C4	190.00	55.01	16°35'21.8"
C5	190.00	105.48	31°48'30.9"
C6	190.00	87.59	26°24'46.4"
C7	800.00	252.73	18°06'02.7"

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C8	350.00	91.90	15°02'41.4"
C9	250.00	169.58	38°51'51.9"
C10	600.00	265.93	25°23'40.5"
C11	200.00	92.40	26°28'18.1"
C12	100.00	88.26	50°34'11.0"
C13	200.00	94.55	27°05'16.7"
C14	200.00	49.67	14°13'41.7"



SHEET NO.	TOTAL SHEETS
F7	59
STATE	YEAR
ALASKA	2010
PROJECT DESIGNATION	
ADDENDUM NO.	
ATTACHMENT NO.	

REVISIONS		
NO.	DATE	DESCRIPTION



STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

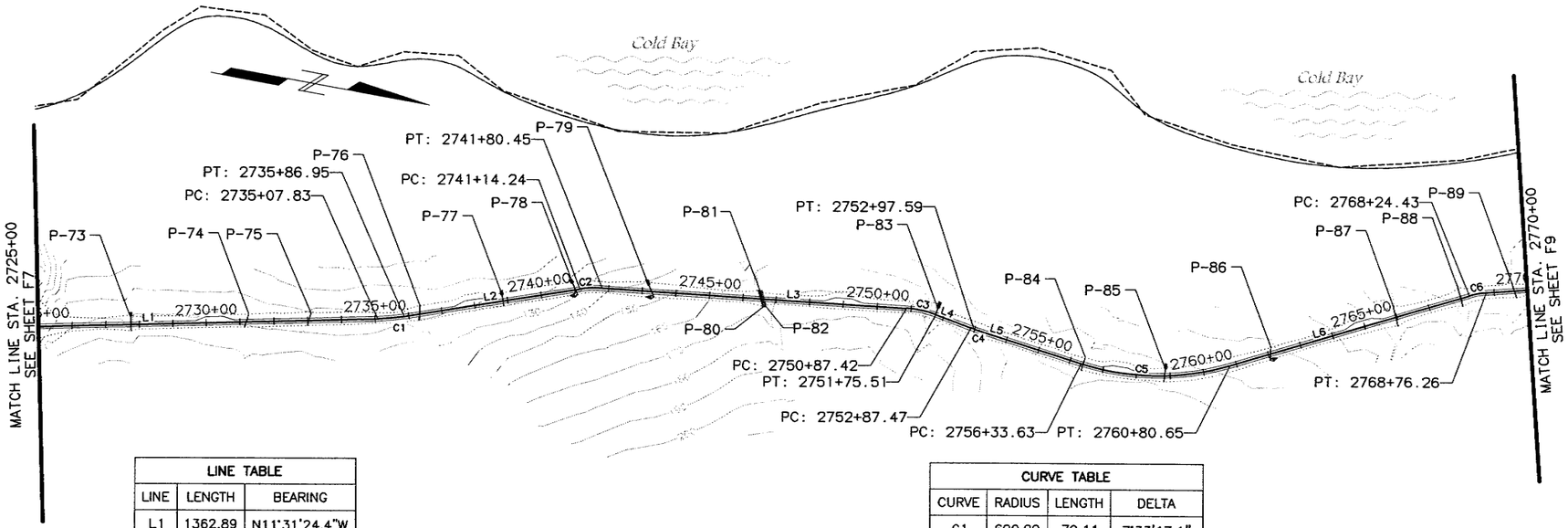
PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

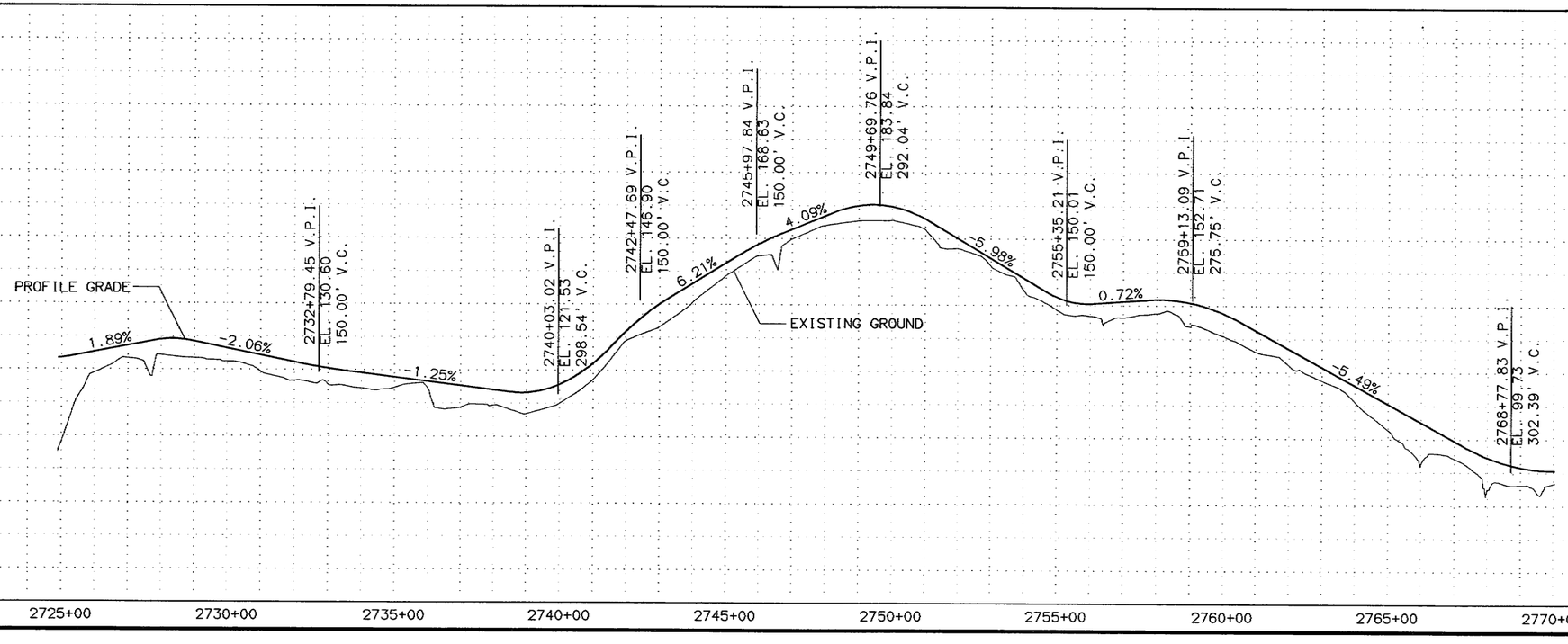
PLAN AND PROFILE
STA. 2680+00
TO
STA. 2725+00

Plotted: Sep 13, 2010 - 11:51am
Plotted by: chokori
CTB:
PLOT SCALE: 35
XREFS: I:\1177500\Design\C&S\Sheets\1177500-F7.dwg(VIEW:
SCALE: 1=
COMPUTER DESIGNATION
DESIGNED BY
CHECKED BY
DRAFTED BY
Sep 13, 2010



LINE TABLE		
LINE	LENGTH	BEARING
L1	1362.89	N11°31'24.4"W
L2	527.30	N19°04'41.5"W
L3	906.96	N6°25'59.1"W
L4	111.96	N10°23'27.8"E
L5	336.04	N7°33'22.6"E
L6	743.78	N26°35'36.5"W

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	600.00	79.11	7°33'17.1"
C2	300.00	66.21	12°38'42.5"
C3	300.00	88.09	16°49'26.9"
C4	204.51	10.12	2°50'05.2"
C5	750.00	447.02	34°08'59.1"
C6	233.02	51.83	12°44'39.7"



SHEET NO.	TOTAL SHEETS
F8	59
STATE	YEAR
ALASKA	2010

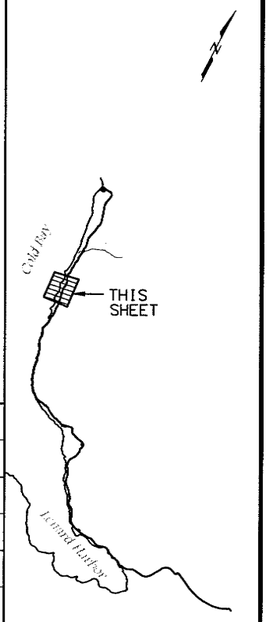
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



STATE OF ALASKA
49TH
Steven M. Keri
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

PLAN AND PROFILE
STA. 2725+00
TO
STA. 2770+00

Plotted by: kblair Plotted: Aug 26, 2010 . 2:22pm

CTB:	DESIGNED BY
PLOT SCALE: 35	CHECKED BY
VIEW:	DRAFTED BY
Aug 26, 2010	

SCALE 1"=
COMPUTER DESIGNATION
XREFS:
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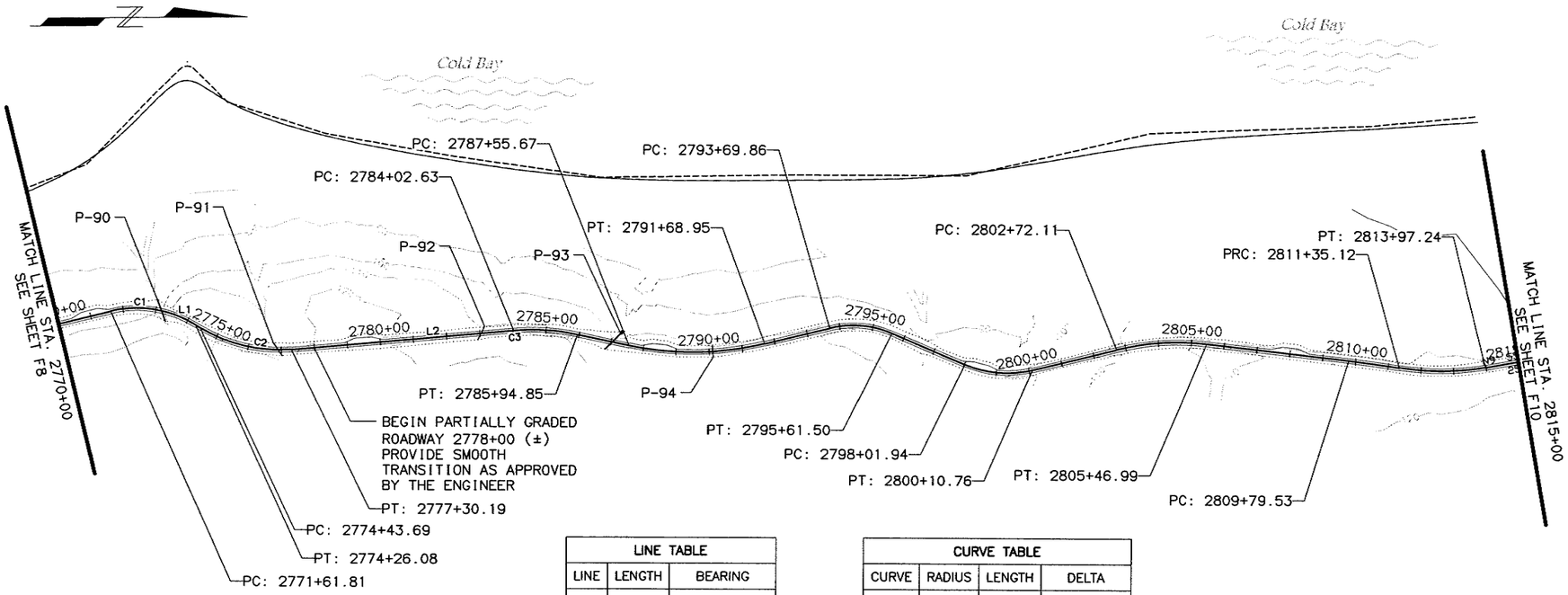
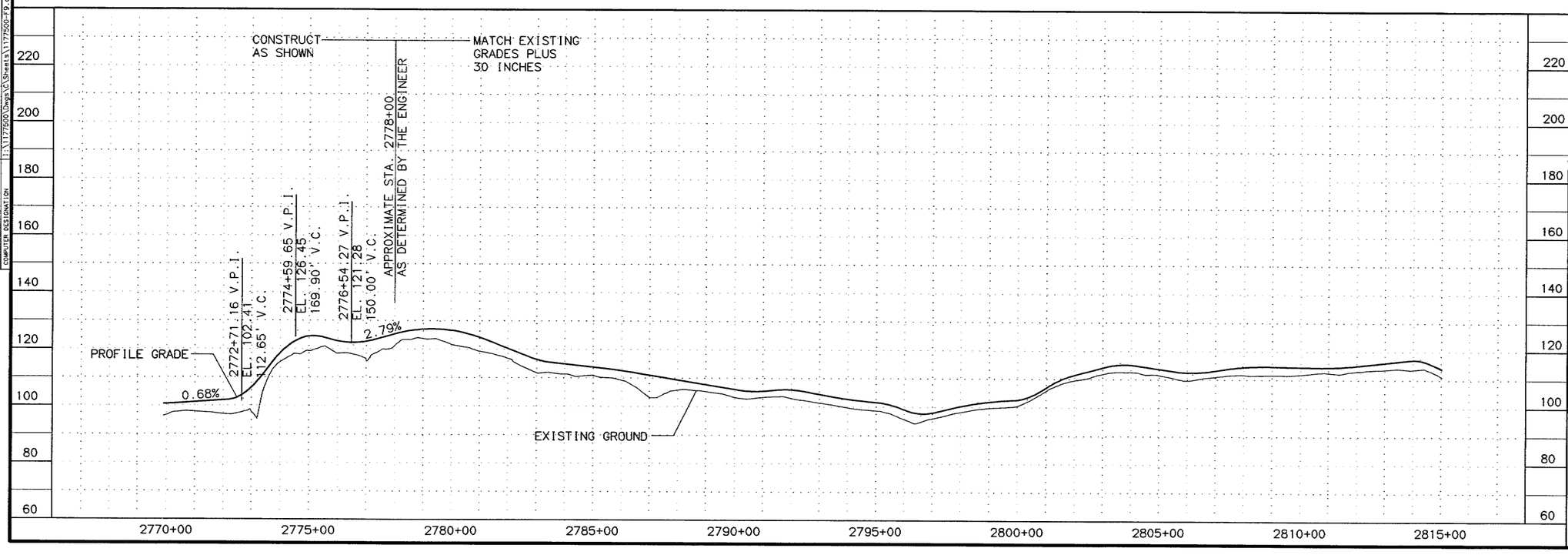


LINE TABLE		
LINE	LENGTH	BEARING
L1	17.60	N31°23'29.4"E
L2	672.44	N5°05'14.4"W

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	334.70	264.28	45°14'26.2"
C2	450.00	286.50	36°28'43.9"
C3	650.00	192.22	16°56'36.5"



SHEET NO.	TOTAL SHEETS
F9	59
STATE	YEAR
ALASKA	2010

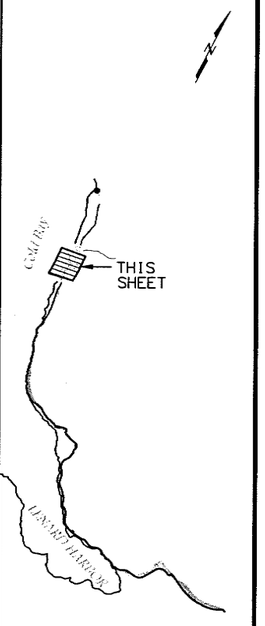
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

PLAN AND PROFILE
STA. 2770+00
TO
STA. 2815+00

Plotted by: kblair Plotted: Aug 26, 2010 , 2:24pm

CTB:
PLOT SCALE: 35
pw/ITEM:
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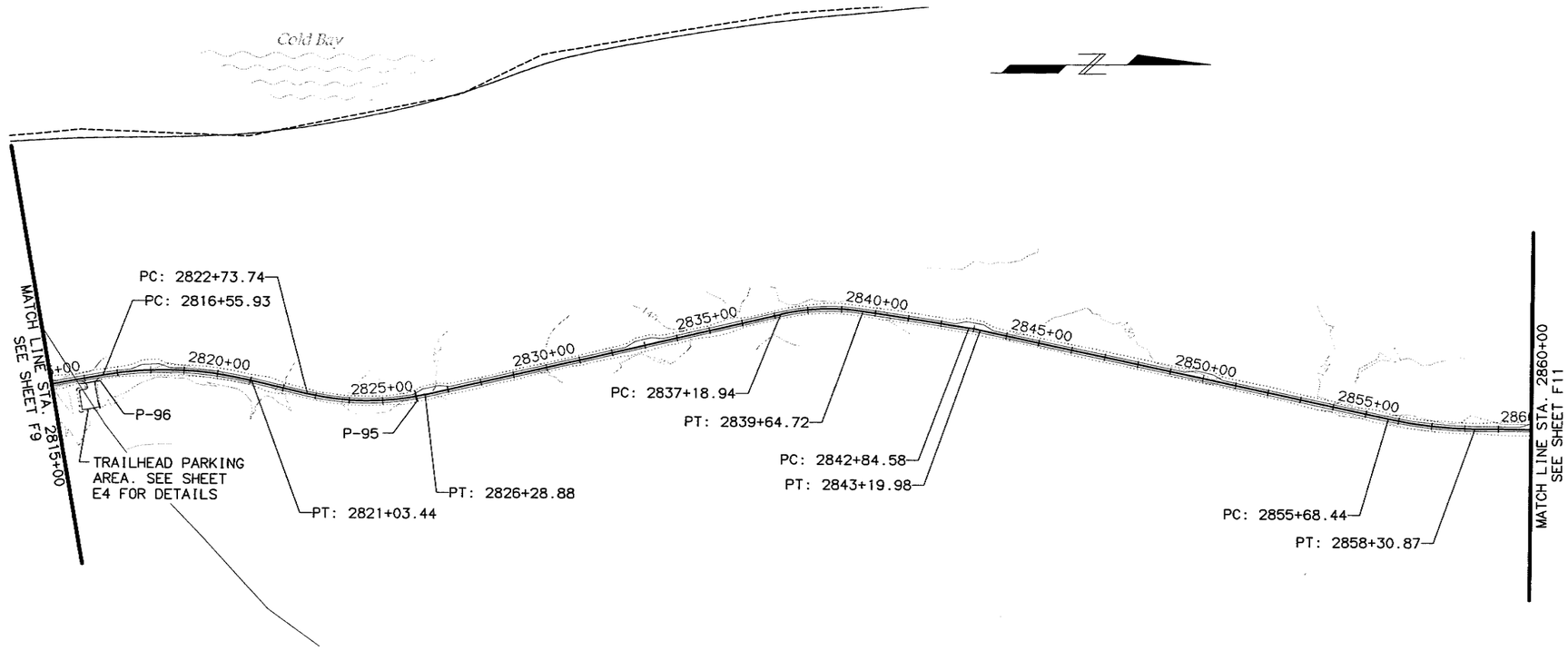
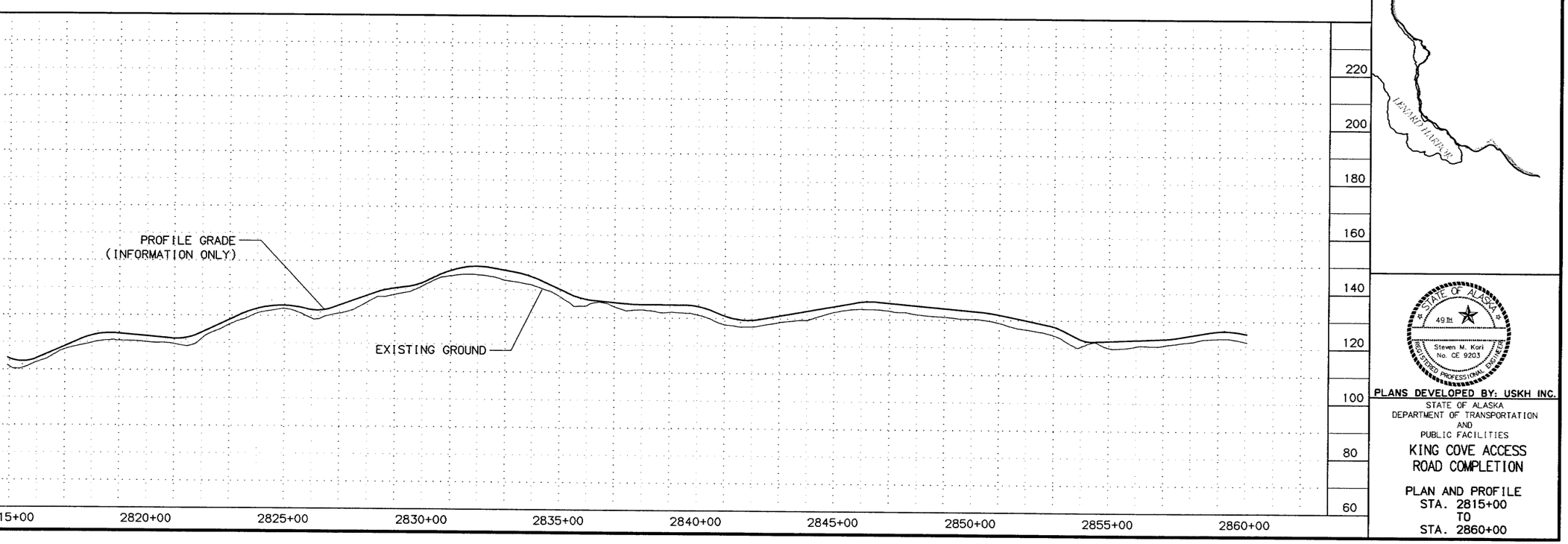
SCALE 1=
COMPUTER DESIGNATION
DESIGNED BY:
CHECKED BY:
DRAFTED BY:
Aug 26, 2010





SHEET NO.	TOTAL SHEETS
F10	59
STATE	YEAR
ALASKA	2010

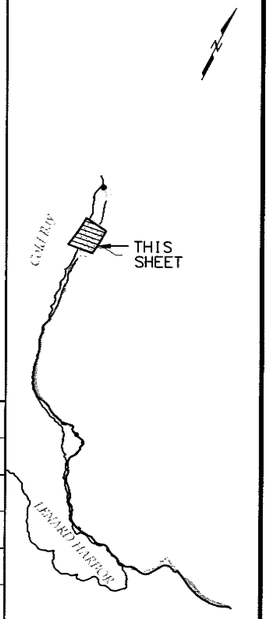
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY: USKH INC.

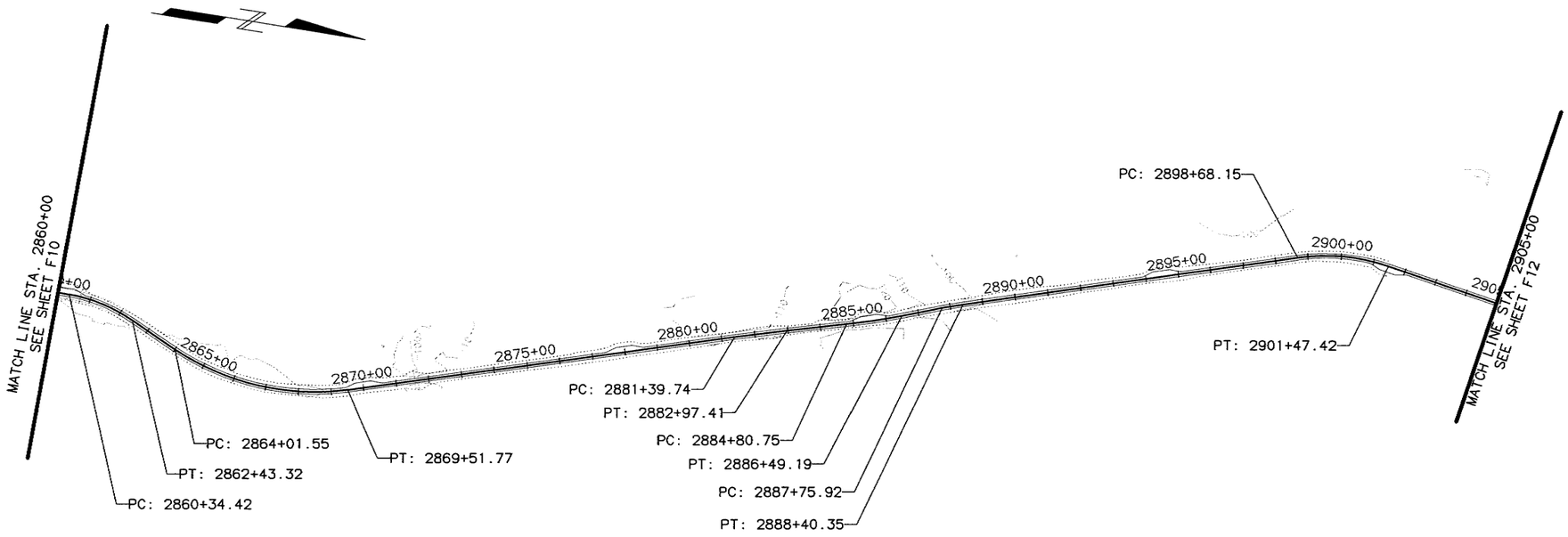
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

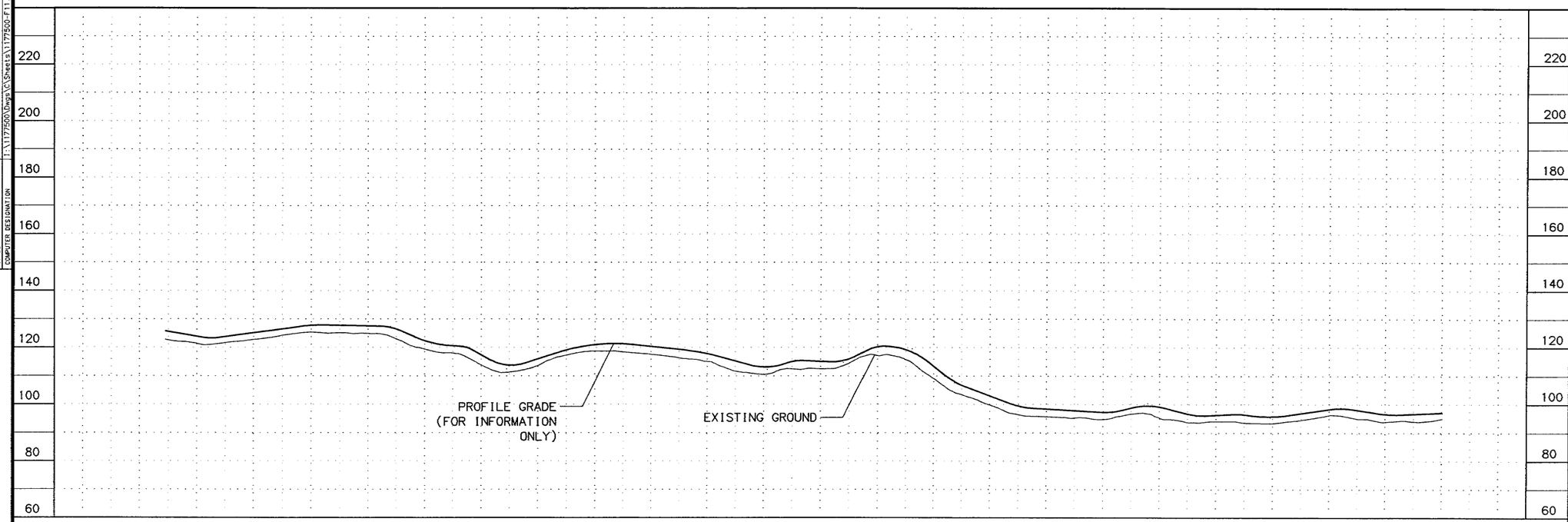
KING COVE ACCESS
ROAD COMPLETION

PLAN AND PROFILE
STA. 2815+00
TO
STA. 2860+00

Plotted: Sep 13, 2010 , 11:56am
Plotted by: chakori

CTB:	
PLOT SCALE:	35
PLOT DATE:	Sep 13, 2010
DESIGNED BY	
CHECKED BY	
DRAFTED BY	
XREFS:	I:\1177500\Dwgs\CS\Sheets\1177500-F10.dwg(EW
SCALE 1=	
COMPUTER DESIGNATION	





SHEET NO.	TOTAL SHEETS
F11	59
STATE	YEAR
ALASKA	2010

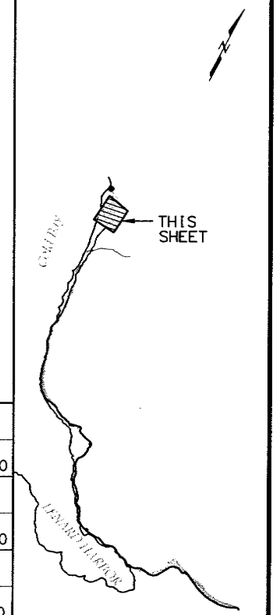
PROJECT DESIGNATION

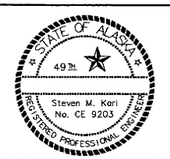
ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION





PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

PLAN AND PROFILE
STA. 2860+00
TO
STA. 2905+00

Plotted by: kblair
Plotted: Aug 26, 2010 , 2:27pm
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
CTB:
PLOT SCALE:
XREFS:
I:\1177500\Dwgs\C\Sheets\1177500-F11.dwg
SCALE 1=
COMPUTER DESIGNATION

SHEET NO.	TOTAL SHEETS
F12	59
STATE	YEAR
ALASKA	2010

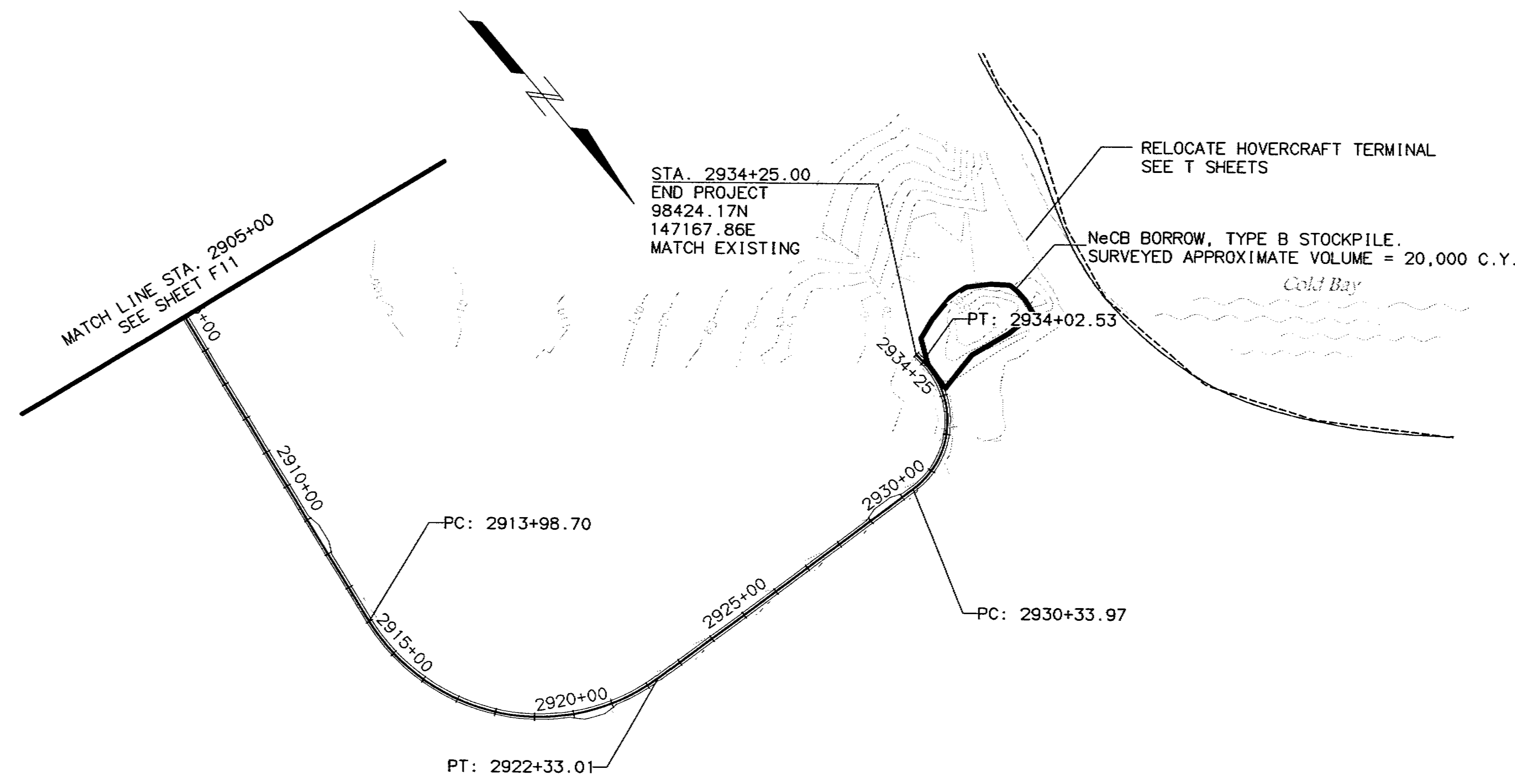
PROJECT DESIGNATION

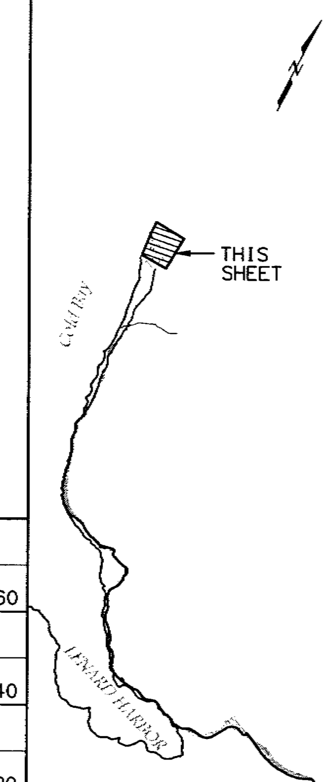
ADDENDUM NO.

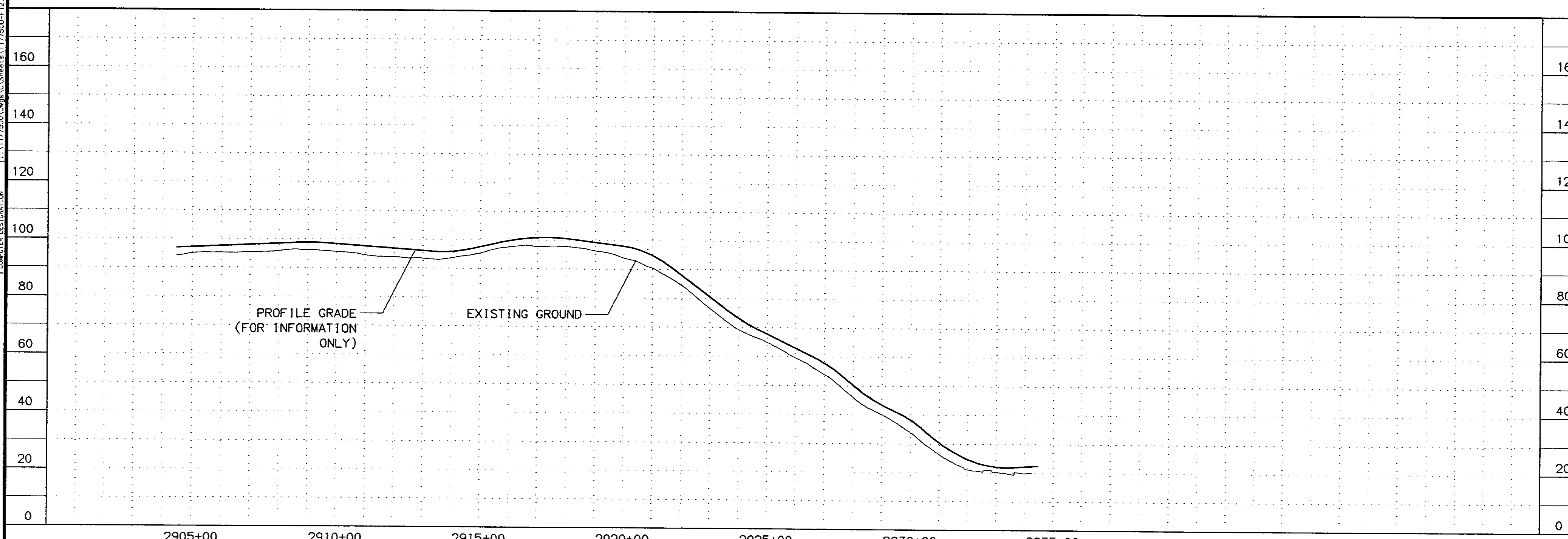
ATTACHMENT NO.

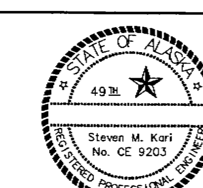
REVISIONS

NO.	DATE	DESCRIPTION









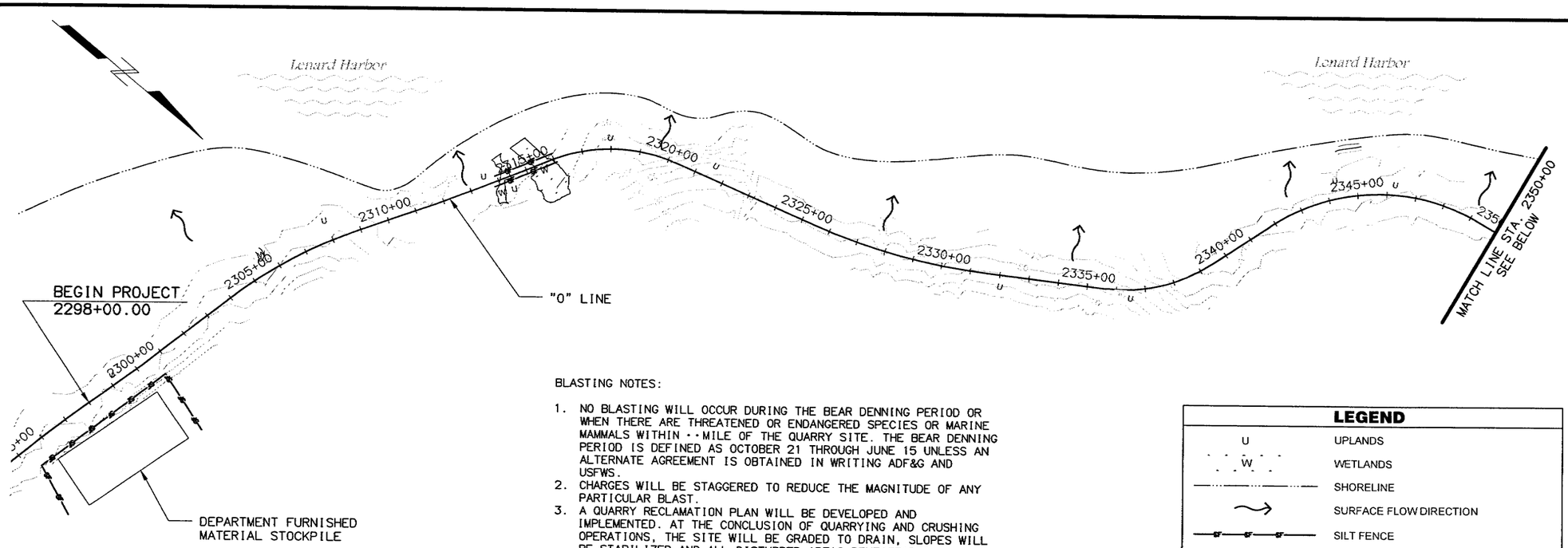
PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

PLAN AND PROFILE
STA. 2905+00
TO
E.O.P.

Plotted by: kblair Plotted: Aug 26, 2010, 2:28pm



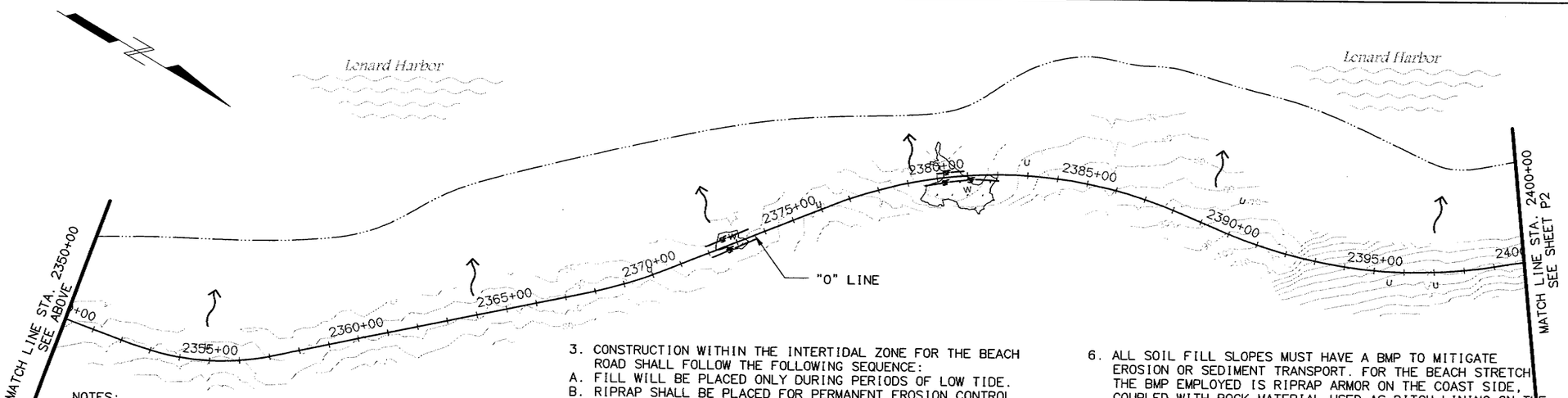
BLASTING NOTES:

1. NO BLASTING WILL OCCUR DURING THE BEAR DENNING PERIOD OR WHEN THERE ARE THREATENED OR ENDANGERED SPECIES OR MARINE MAMMALS WITHIN ··MILE OF THE QUARRY SITE. THE BEAR DENNING PERIOD IS DEFINED AS OCTOBER 21 THROUGH JUNE 15 UNLESS AN ALTERNATE AGREEMENT IS OBTAINED IN WRITING ADF&G AND USFWS.
2. CHARGES WILL BE STAGGERED TO REDUCE THE MAGNITUDE OF ANY PARTICULAR BLAST.
3. A QUARRY RECLAMATION PLAN WILL BE DEVELOPED AND IMPLEMENTED. AT THE CONCLUSION OF QUARRYING AND CRUSHING OPERATIONS, THE SITE WILL BE GRADED TO DRAIN, SLOPES WILL BE STABILIZED AND ALL DISTURBED AREAS REVEGETATED.

LEGEND

U	UPLANDS
W	WETLANDS
	SHORELINE
	SURFACE FLOW DIRECTION
	SILT FENCE
P-XX	CULVERT LOCATIONS-SEE SHEETS D1-D3 FOR DETAILS

SEE SHEET P12 FOR PLACEMENT OF TEMPORARY CHECK DAMS.



NOTES:

1. THE "0" LINE REPRESENTS THE ORIGINAL DESIGN ALIGNMENT FROM THE BOP TO THE BEGINNING OF THE SEGMENT 3 ALIGNMENT. NO AS-BUILT SURVEY EXISTS AND THE EXISTING ROADWAY MAY DEVIATE SUBSTANTIALLY AT ANY GIVEN LOCATION. THE "0" LINE IS INTENDED ONLY TO PROVIDE A BASIS OF ESTIMATE FOR THE SURFACE COURSE REQUIRED FROM STATION 2998+00 TO 2540+00. THE ACTUAL QUANTITY WILL BE MEASURED AND PAID AS SPECIFIED. CONSTRUCT THE SURFACE COURSE TO MATCH EXISTING ROADWAY WIDTH AND GRADES AS SHOWN IN THE TYPICAL SECTIONS.
2. VEGETATED SLOPES OUTSIDE PROJECT FOOTPRINT NOT TO BE DISTURBED. (TYPICAL ALL SHEETS)
3. CONSTRUCTION WITHIN THE INTERTIDAL ZONE FOR THE BEACH ROAD SHALL FOLLOW THE FOLLOWING SEQUENCE:
   A. FILL WILL BE PLACED ONLY DURING PERIODS OF LOW TIDE.
   B. RIPRAP SHALL BE PLACED FOR PERMANENT EROSION CONTROL IMMEDIATELY AFTER PLACING ROAD FILL TO 2' ABOVE THE EXPECTED WATER LEVEL ON SUBSEQUENT TIDES. CONSERVATION OF RIPRAP MATERIAL WILL REQUIRE A NEAR SIMULTANEOUS PLACEMENT OF 12 INCH MINUS SHOT ROCK (BORROW, TYPE D) AND RIPRAP.
   C. THE FINAL LAYER OF EMBANKMENT, AND RIPRAP WOULD BE PLACED AS SOON AS PRACTICAL IN THE CONSTRUCTION SEQUENCE TO ESTABLISH THE STABILIZED EMBANKMENT TO ITS FINISHED ELEVATION.
4. PROTECT ALL SURFACE WATERS AND WETLANDS FROM RECEIVING SEDIMENT LOADS.
5. PREVENT DEGRADATION OF FRESHWATER OR MARINE WATERS FROM PROJECT ACTIVITIES. EXAMPLES OF TECHNIQUES TO ACCOMPLISH THIS ARE THE ISOLATION OF IN-WATER WORK AREAS FROM OPEN WATERS.
6. ALL SOIL FILL SLOPES MUST HAVE A BMP TO MITIGATE EROSION OR SEDIMENT TRANSPORT. FOR THE BEACH STRETCH THE BMP EMPLOYED IS RIPRAP ARMOR ON THE COAST SIDE, COUPLED WITH ROCK MATERIAL USED AS DITCH LINING ON THE LAND SIDE. OTHER SOIL FILL SLOPES SHOULD HAVE SEEDING, MULCH, TACKIFIERS, SILT FENCE, WATTLES, OR OTHER MEASURES TO STABILIZE AND MITIGATE EROSION AND SEDIMENTATION. MORE THAN ONE MEASURE MAY BE USED DEPENDING ON CONDITIONS ENCOUNTERED. PROTECT STREAM CHANNELS AND SURFACE WATERS FROM SEDIMENTATION BY STRATEGIC PLACEMENT OF WATTLES OR SILT FENCE.

PROJECT AREAS:

TOTAL PROJECT AREA = 75.0 ACRES
TOTAL AREA OF DISTURBANCE = 52.3 ACRES

SHEET NO.	TOTAL SHEETS
P1	59
STATE	YEAR
ALASKA	2010

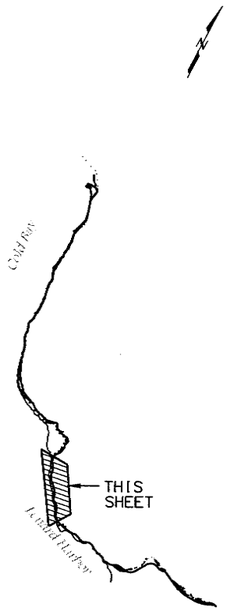
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



STATE OF ALASKA
4931
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

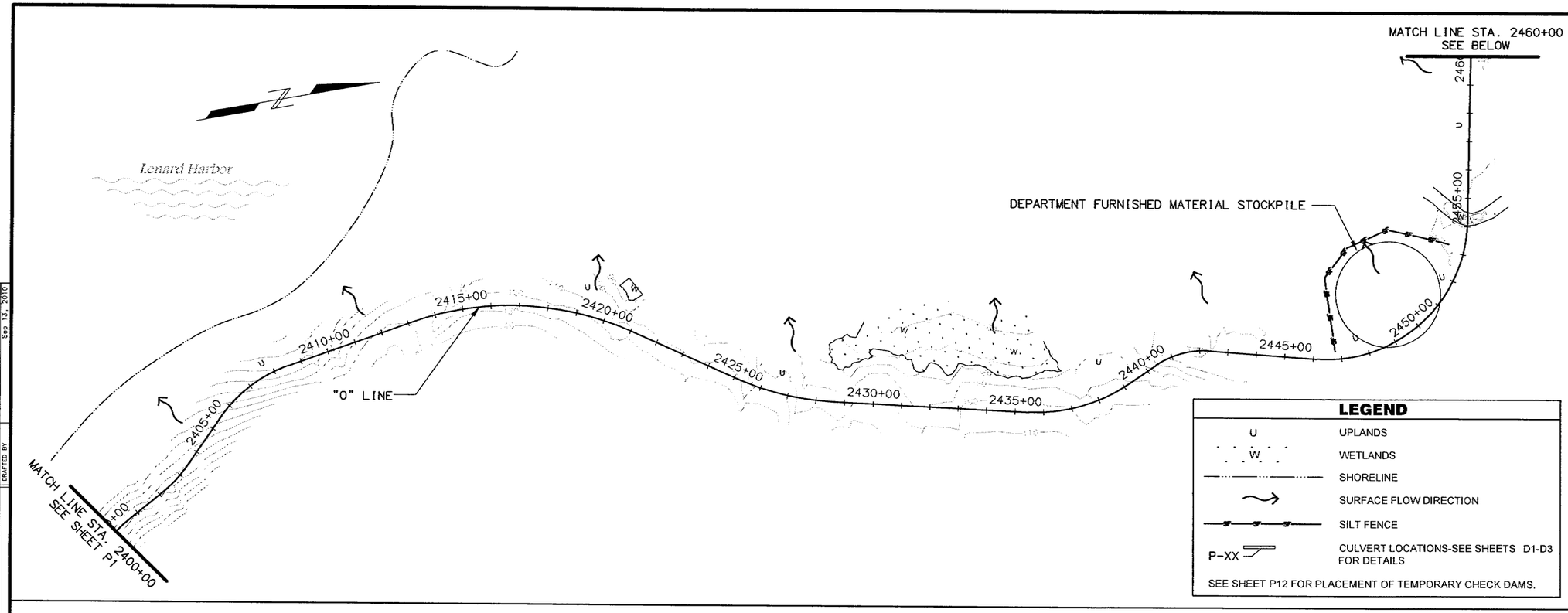
PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

ESCP PLAN
B.O.P.
TO
STA. 2400+00

Plotted: Aug 26, 2010 , 11:45am
Plotted by: kblair
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
XREFS:
CTB:
PLOT SCALE:
SCALE: 1=
COMPUTER DESIGNATION: I:\177500\Cargo\CSheets\177600-P1.dwg
ITEM:



SHEET NO.	TOTAL SHEETS
P2	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

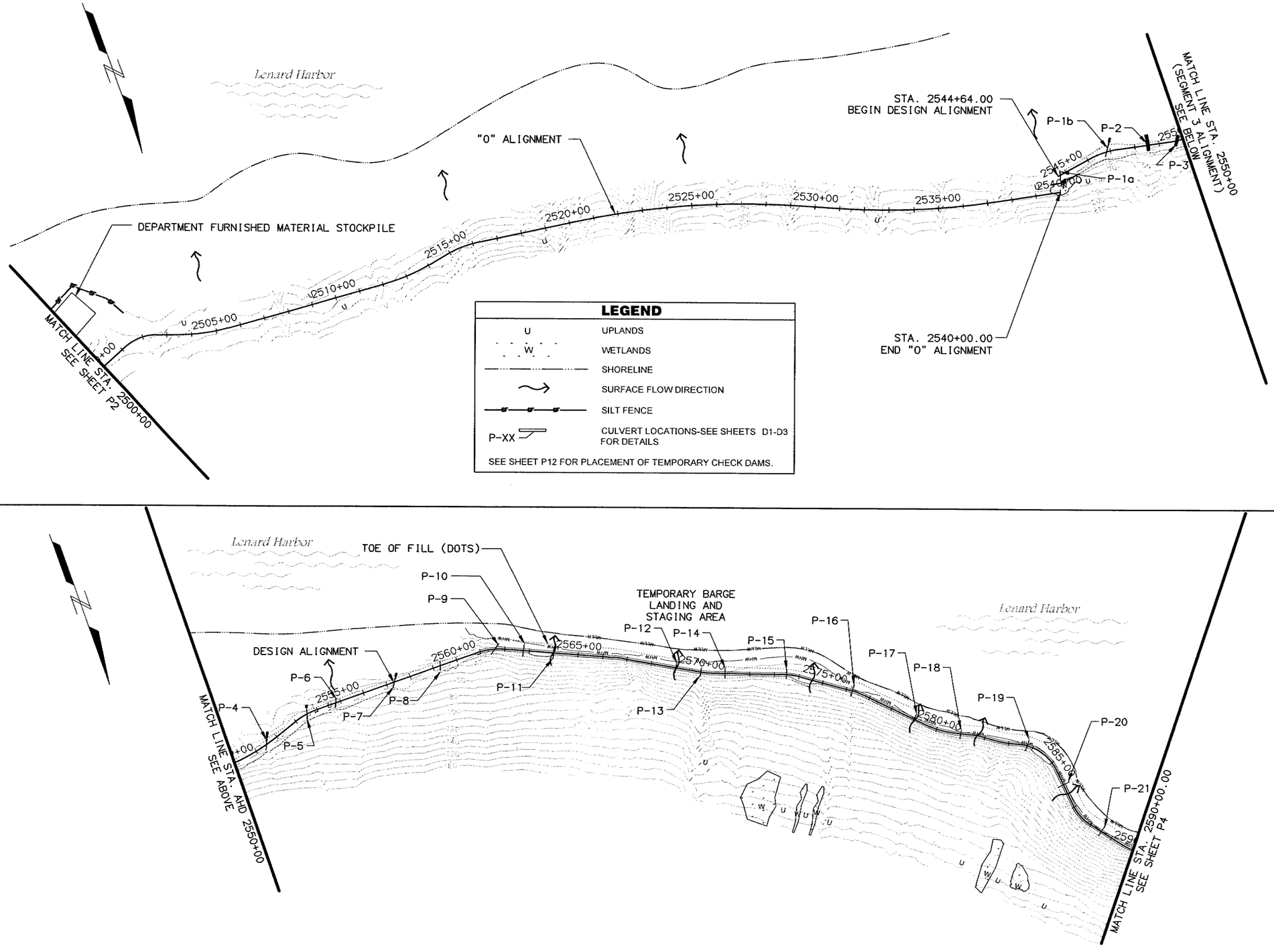
ESCP PLAN
STA. 2400+00
TO
STA. 2500+00

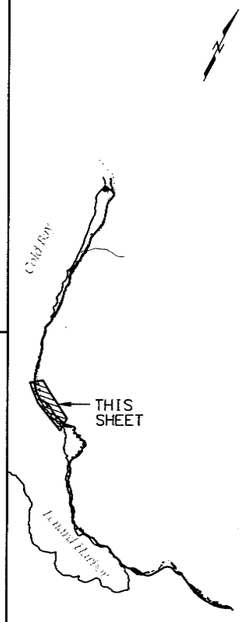
Plotted: Sep 13, 2010 , 12:01pm
Plotted by: chakari
DESIGNED BY
CHECKED BY
DRAFTED BY
Sep 13, 2010
CTB:
PLOT SCALE: 35
PLOT VIEW:
XREFS:
SCALE: 1"=
COMPUTER DESIGNATION
E:\17560\Dwgs\C\Sheets\177560-P2.dwg

Plotted: Sep 13, 2010 , 12:12pm

Plotted by: chakari

DESIGNED BY		Sep 13, 2010
CHECKED BY		
DRAFTED BY		
O'B:		
PLOT SCALE:	35	
SCALE: 1"		
COMPUTER DESIGNATION		
XREFS:	J:\177500\Dwgs\C\Sheets\177500-P3-P7.dwg	





SHEET NO.	TOTAL SHEETS
P3	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

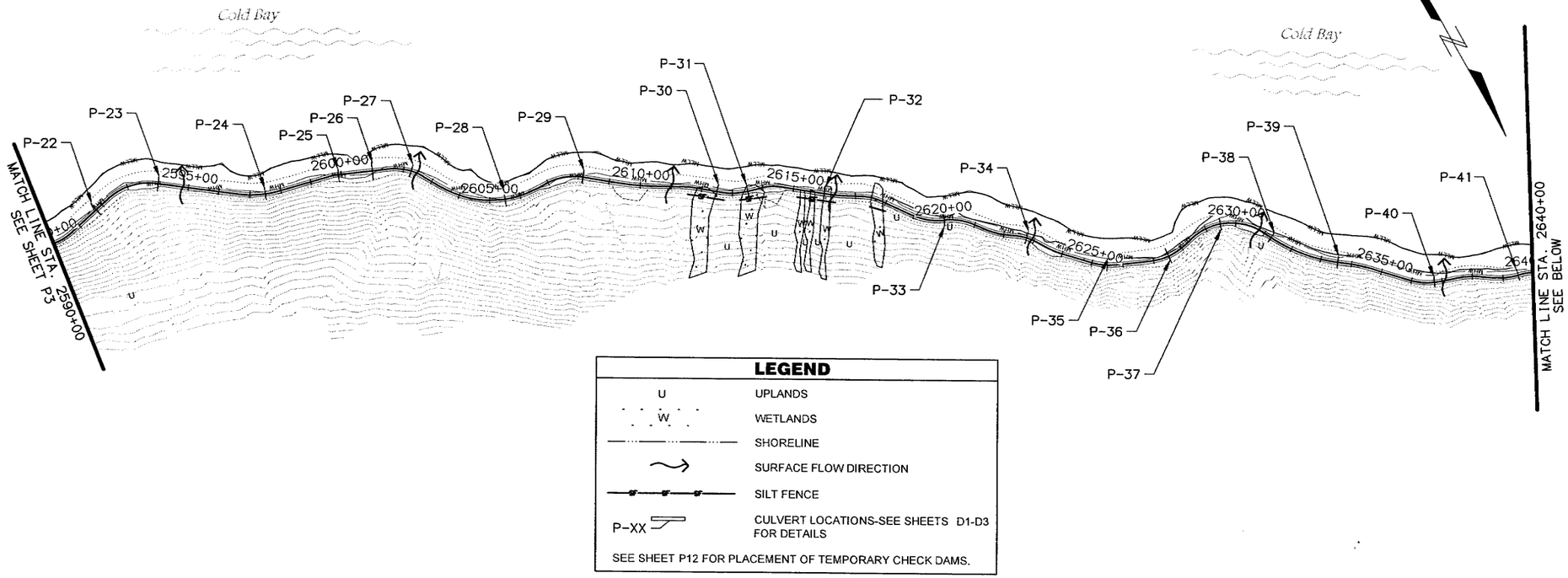
STATE OF ALASKA
49TH
Steven M. Karl
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

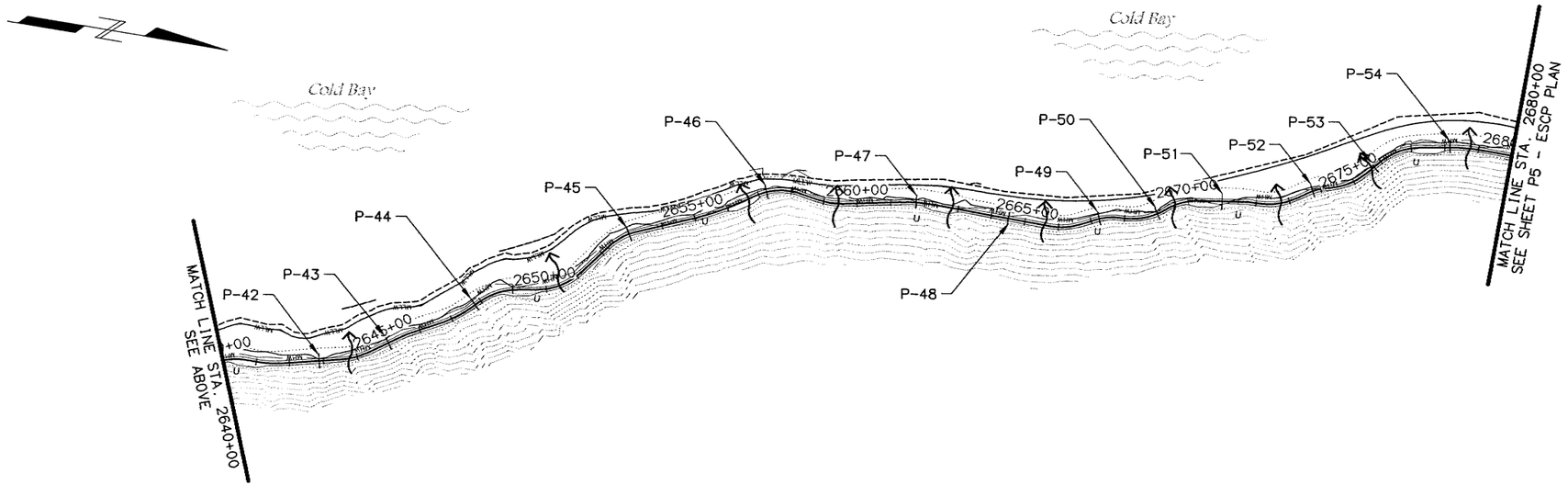
ESCP PLAN
STA. 2500+00
TO
STA. 2590+00



LEGEND

U	UPLANDS
W	WETLANDS
	SHORELINE
	SURFACE FLOW DIRECTION
	SILT FENCE
P-XX	CULVERT LOCATIONS-SEE SHEETS D1-D3 FOR DETAILS

SEE SHEET P12 FOR PLACEMENT OF TEMPORARY CHECK DAMS.



SHEET NO.	TOTAL SHEETS
P4	59
STATE	YEAR
ALASKA	2010

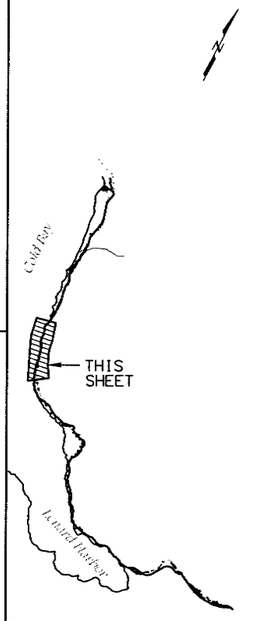
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

ESCP PLAN
STA. 2590+00
TO
STA. 2680+00

Plotted: Sep 13, 2010 , 12:12pm
Plotted by: chakari
DESIGNED BY
CHECKED BY
DRAFTED BY
Sep 13, 2010
SCALE: 35
CTB:
PLOT SCALE:
XREFS:
SCALE 1"=
COMPUTER DESIGNATION
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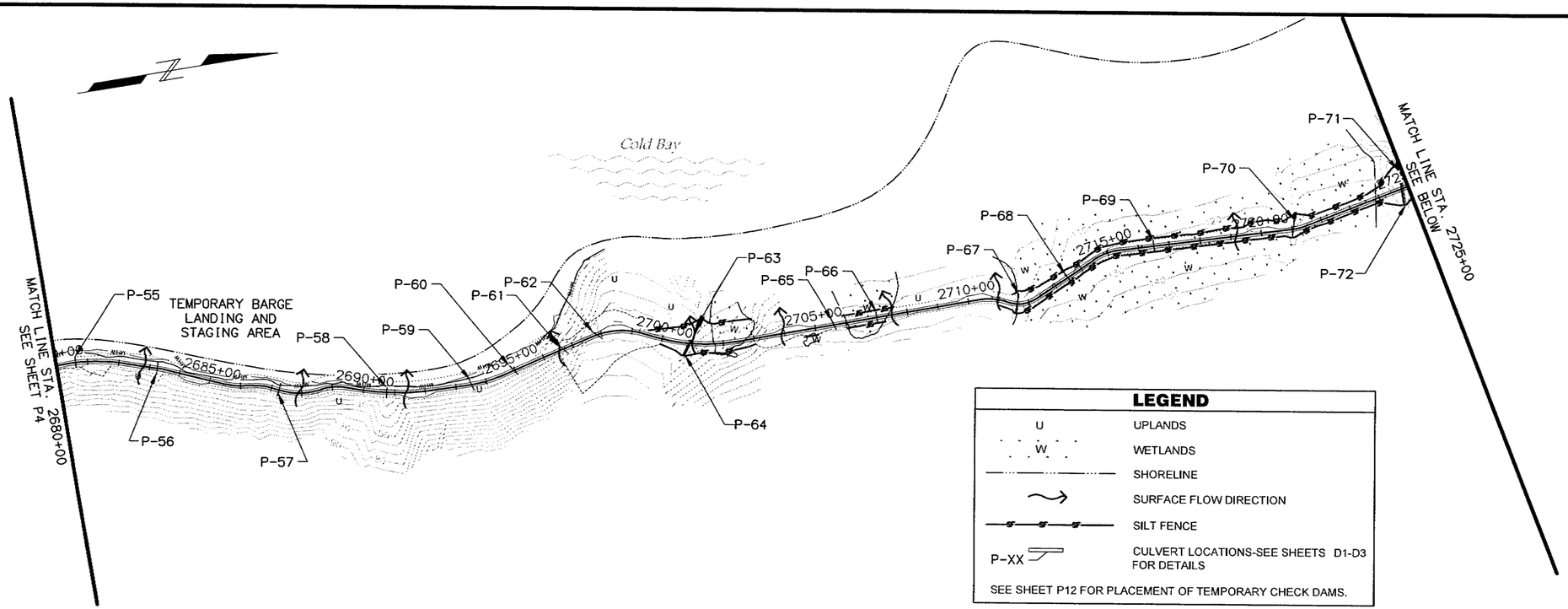
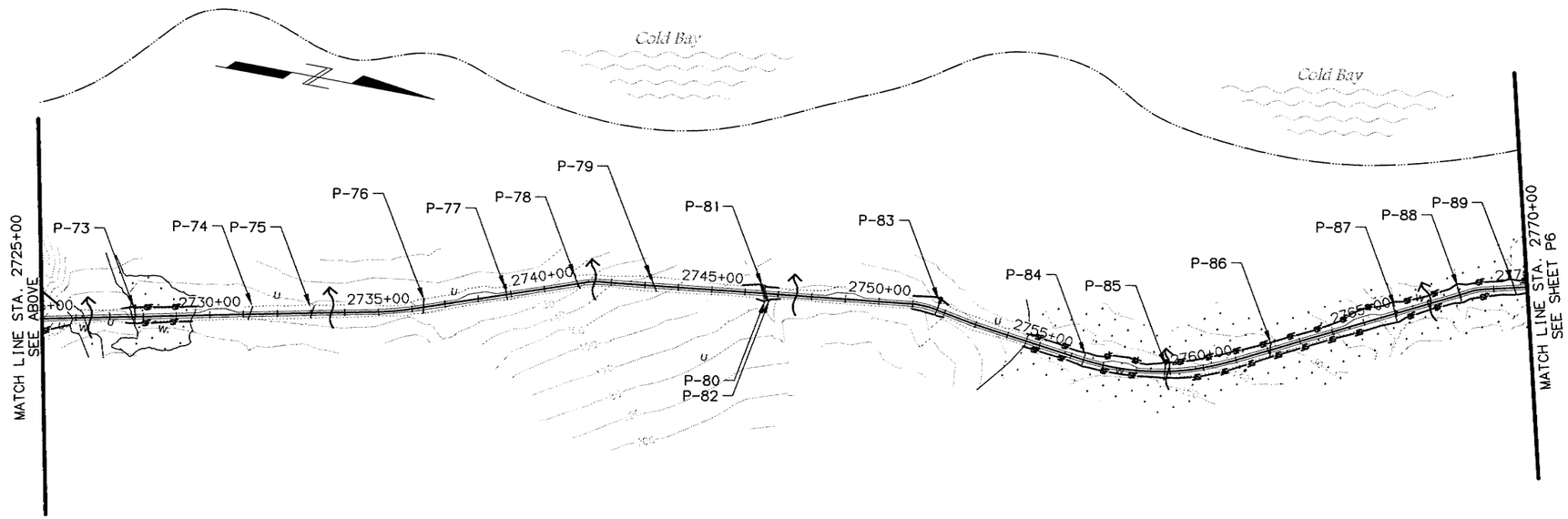
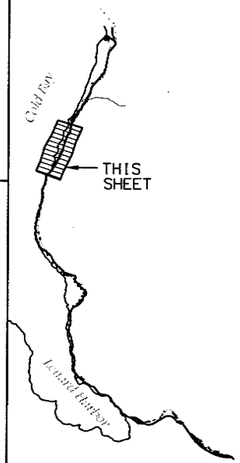


LEGEND

U	UPLANDS
W	WETLANDS
	SHORELINE
	SURFACE FLOW DIRECTION
	SILT FENCE
P-XX	CULVERT LOCATIONS-SEE SHEETS D1-D3 FOR DETAILS

SEE SHEET P12 FOR PLACEMENT OF TEMPORARY CHECK DAMS.





SHEET NO.	TOTAL SHEETS
P5	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

ESCP PLAN
STA. 2680+00
TO
STA. 2770+00

Plotted by: chokari Plotted: Sep 13, 2010 , 12:13pm

CTB:	DESIGNED BY
PLOT SCALE: 35	CHECKED BY
	DRAFTED BY
SCALE 1"=	Sep 13, 2010
XREFS:	
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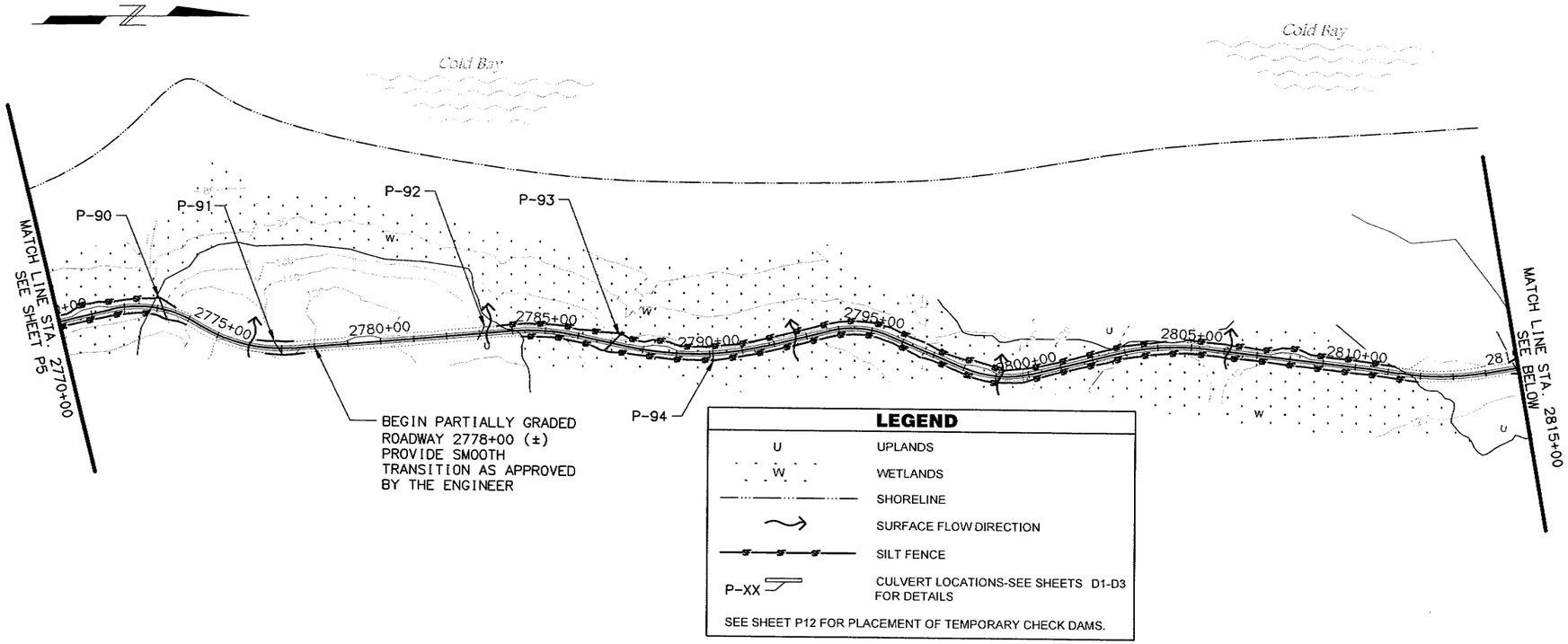
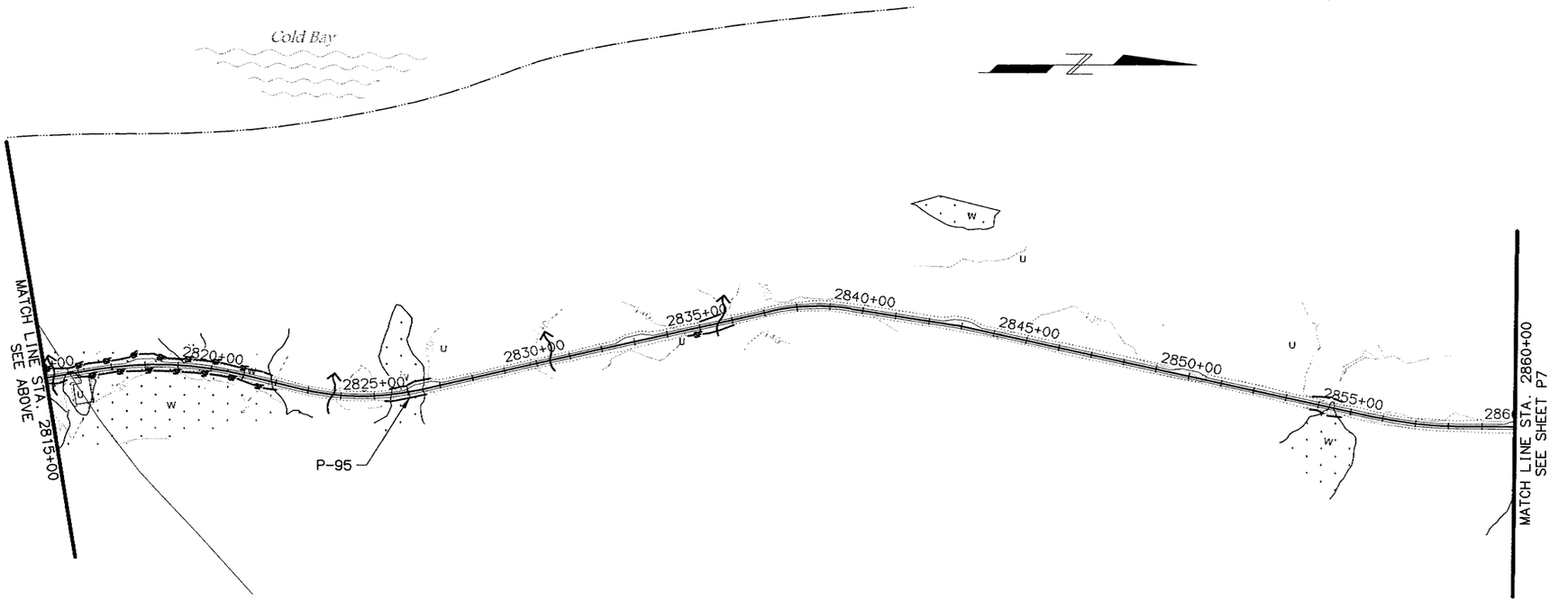


LEGEND

U	UPLANDS
W	WETLANDS
	SHORELINE
	SURFACE FLOW DIRECTION
	SILT FENCE
P-XX	CULVERT LOCATIONS-SEE SHEETS D1-D3 FOR DETAILS

SEE SHEET P12 FOR PLACEMENT OF TEMPORARY CHECK DAMS.



SHEET NO.	TOTAL SHEETS
P6	59
STATE	YEAR
ALASKA	2010

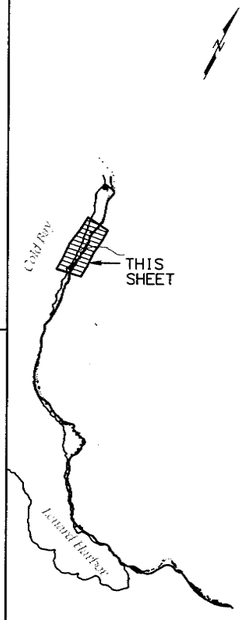
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION



STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

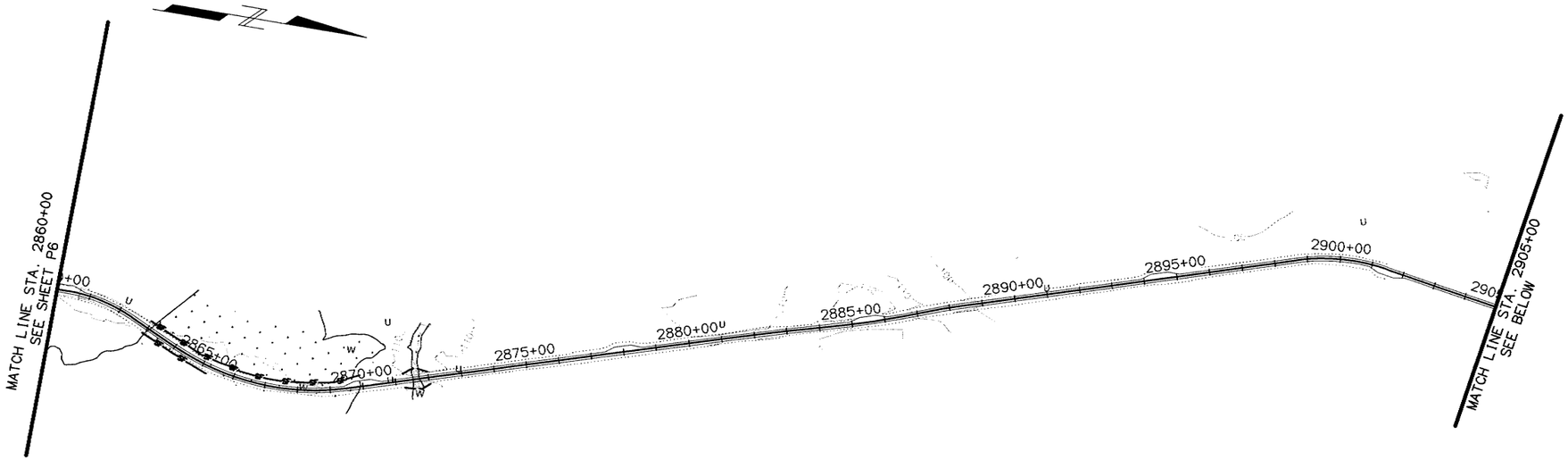
PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

ESCP PLAN
STA. 2770+00
TO
STA. 2860+00

Plotted: Sep 13, 2010 - 12:13pm
Plotted by: chakari
DESIGNED BY
CHECKED BY
DRAFTED BY
Sep 13, 2010
CTB:
PLOT SCALE: 35
XREFS:
SCALE 1=
COMPUTER DESIGNATION
I:\V177500\Cargo\Sheets\177500-P2-P7.dgn



SHEET NO.	TOTAL SHEETS
P7	59
STATE	YEAR
ALASKA	2010

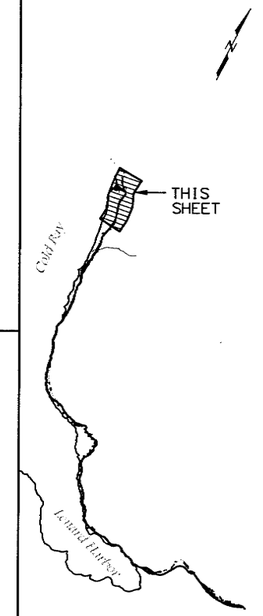
PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

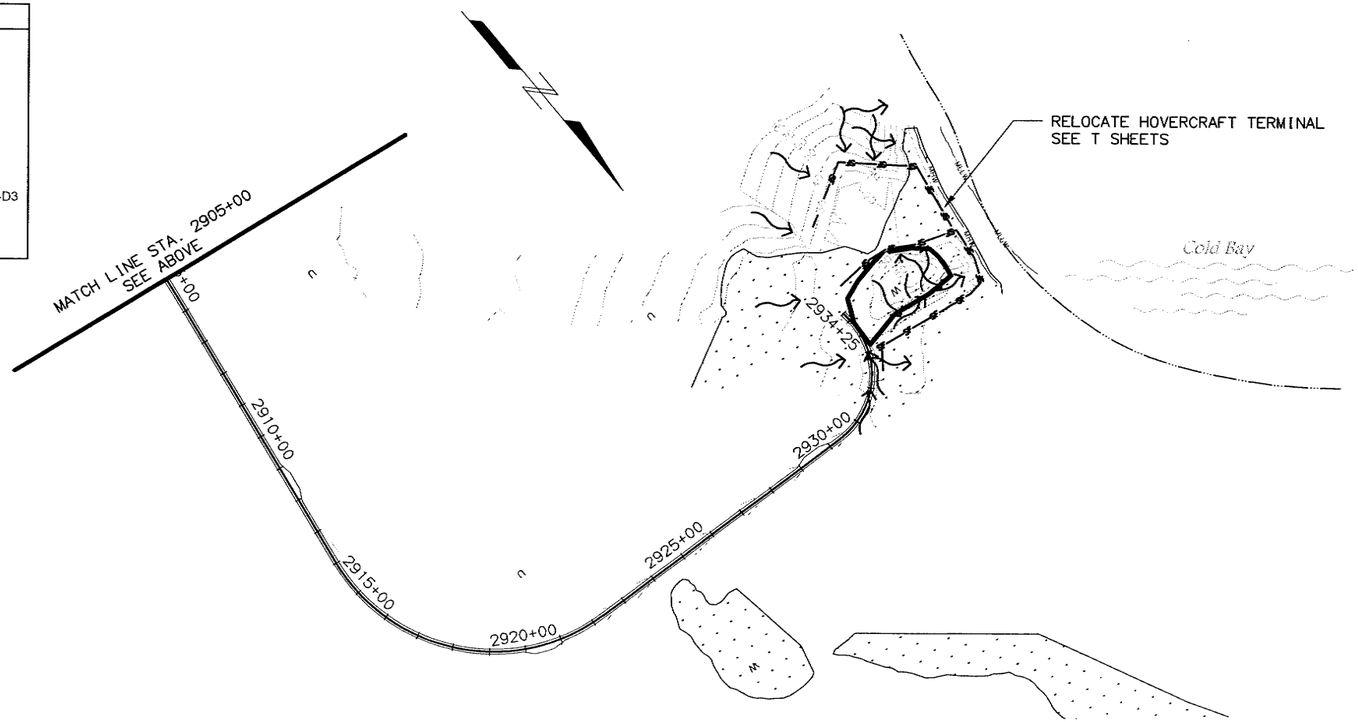
NO.	DATE	DESCRIPTION

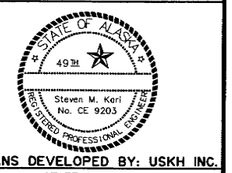


LEGEND

U	UPLANDS
W	WETLANDS
	SHORELINE
	SURFACE FLOW DIRECTION
	SILT FENCE
P-XX	CULVERT LOCATIONS-SEE SHEETS D1-D3 FOR DETAILS

SEE SHEET P12 FOR PLACEMENT OF TEMPORARY CHECK DAMS.





PLANS DEVELOPED BY: USKH INC.

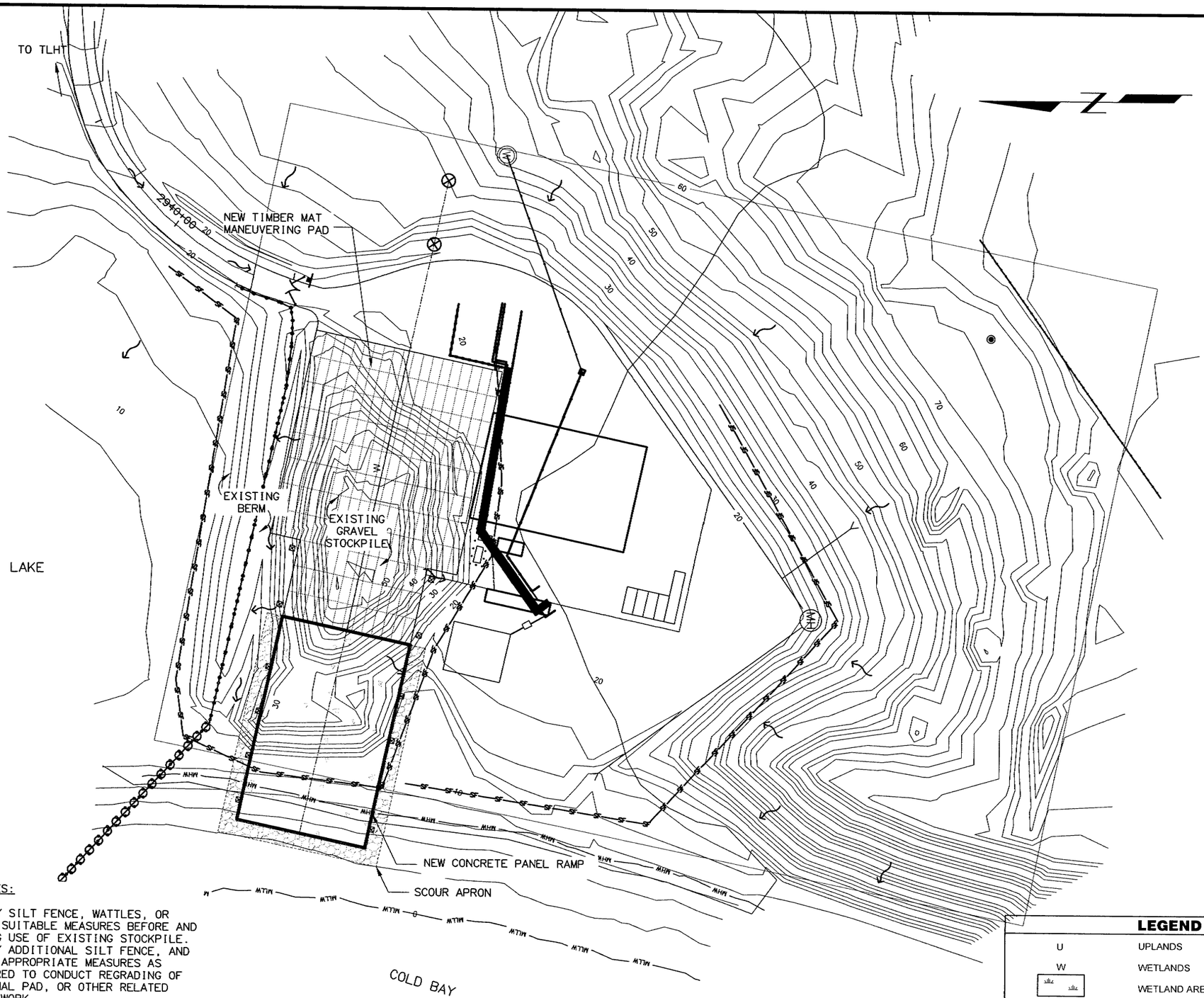
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

ESCP PLAN
STA. 2860+00
TO
EOP

Plotted by: chakori Plotted: Sep 13, 2010 , 12:14pm

DESIGNED BY	
CHECKED BY	
DRAFTED BY	Sep 13, 2010
PLOT SCALE:	35
PLOT DATE:	
XREFS:	I:\177500\Dwgs\C\Sheets\177500-P3-P7.dwg
SCALE: 1"	
COMPUTER DESIGNATION	



NeCB NOTES:

1. EMPLOY SILT FENCE, WATTLES, OR OTHER SUITABLE MEASURES BEFORE AND DURING USE OF EXISTING STOCKPILE. EMPLOY ADDITIONAL SILT FENCE, AND OTHER APPROPRIATE MEASURES AS REQUIRED TO CONDUCT REGRADING OF TERMINAL PAD, OR OTHER RELATED EARTH WORK.

LEGEND

U	UPLANDS
W	WETLANDS
	WETLAND AREA
	SURFACE FLOW DIRECTION
SF	SILT FENCE
MHW	MEDIAN HIGH WATER
MLLW	MEDIAN LOW LOWER WATER

SHEET NO.	TOTAL SHEETS
P8	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA 49 St
Steven M. Kori No. CE 9203 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

ESCP PLAN
NeCB TERMINAL

Plotted by: kblair
Plotted: Aug 26, 2010 , 11:55am
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
CTB:
PLOT SCALE: 8
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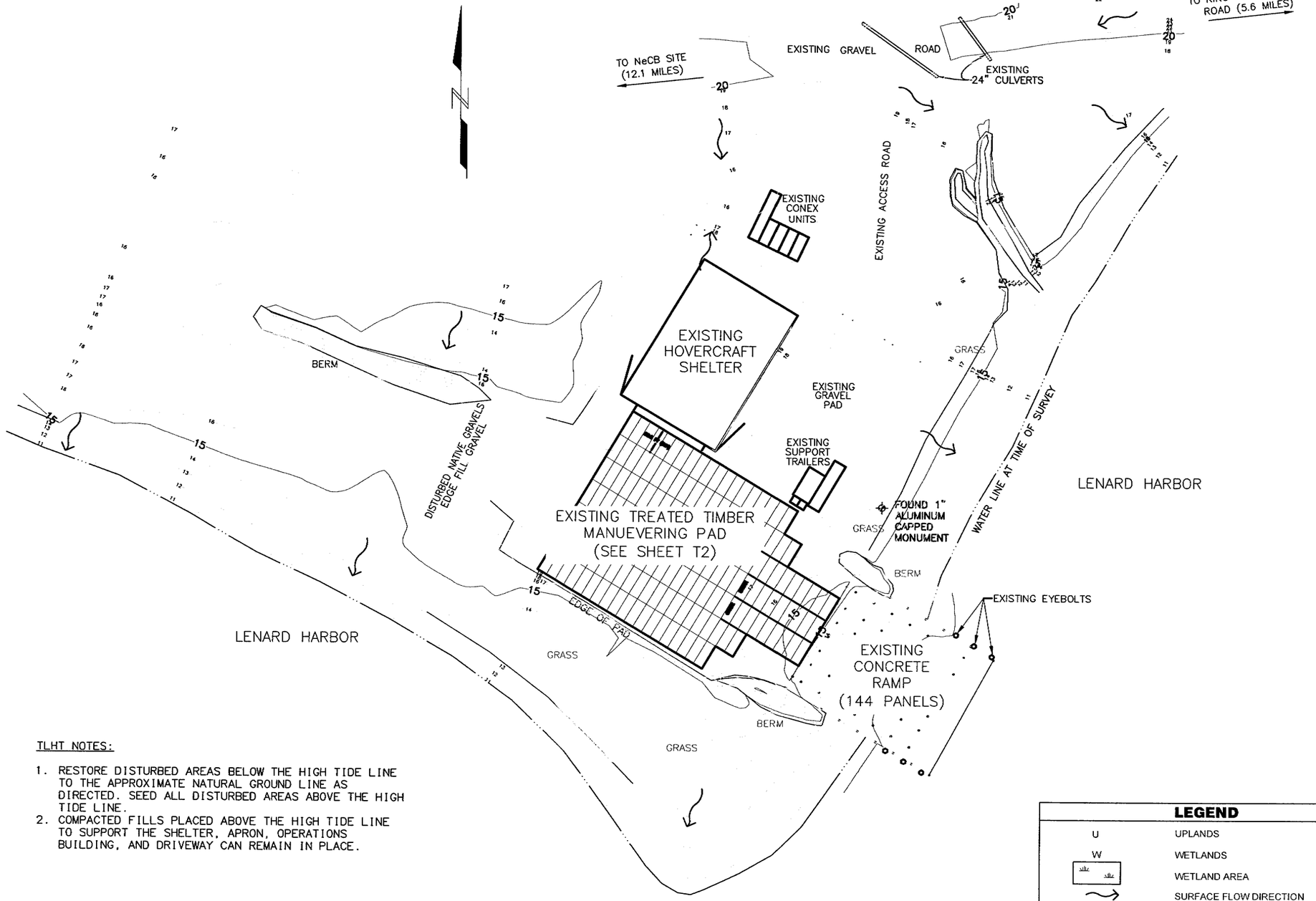
I:\177500\Dwgs\CS\Sheets\177500-P8.dwg/TEM:
SCALE 1"=
COMPUTER DESIGNATION



TLHT NOTES:

1. RESTORE DISTURBED AREAS BELOW THE HIGH TIDE LINE TO THE APPROXIMATE NATURAL GROUND LINE AS DIRECTED. SEED ALL DISTURBED AREAS ABOVE THE HIGH TIDE LINE.
2. COMPACTED FILLS PLACED ABOVE THE HIGH TIDE LINE TO SUPPORT THE SHELTER, APRON, OPERATIONS BUILDING, AND DRIVEWAY CAN REMAIN IN PLACE.

80 0 40 80 160

SCALE IN FEET

LEGEND

U	UPLANDS
W	WETLANDS
silt silt	WETLAND AREA
	SURFACE FLOW DIRECTION
	SILT FENCE
MHW	MEDIAN HIGH WATER
MLLW	MEDIAN LOW LOWER WATER

SHEET NO.	TOTAL SHEETS
P9	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA
49 ST
Steven M. Karl
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

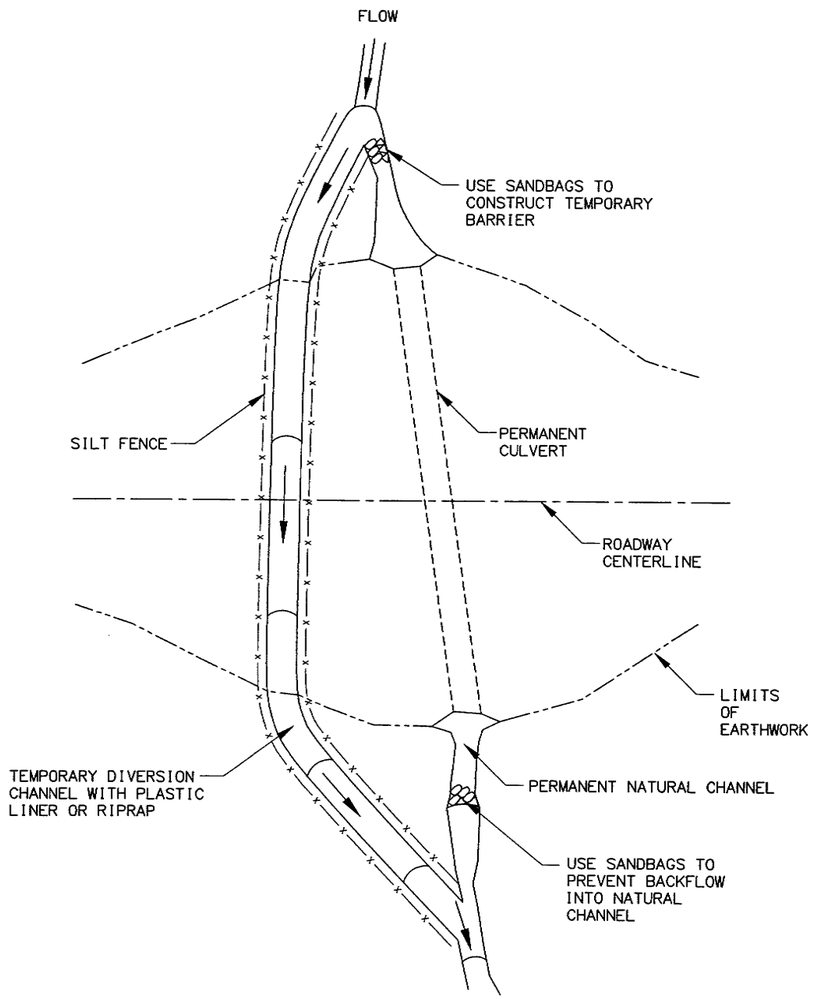
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

EXISTING LENARD HARBOR
TERMINAL (TLHT)

Plotted: Aug 26, 2010 , 11:56am
Plotted by: kblair
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
XREFS:
CTB:
PLOT SCALE: 1
SCALE 1=
COMPUTER DESIGNATION: I:\1177500\Dwgs\CS\Sheets\1177500-P9.dwg/TEW

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	P10	59



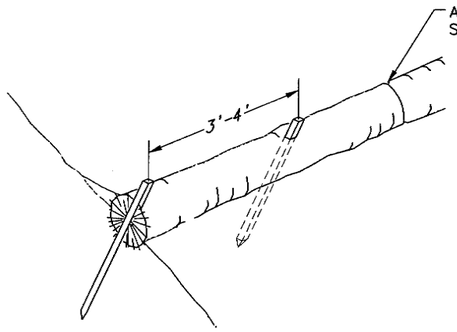
DIVERSION CHANNEL DETAIL

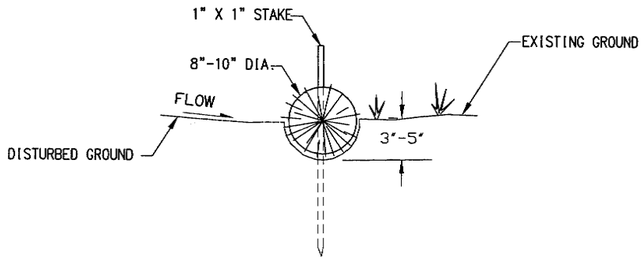
NOTES:

1. FLOWING WATER AT TIME OF CULVERT INSTALLATION MUST BE DIVERTED AS SHOWN IN THE DIVERSION CHANNEL DETAIL, BY DAMMING AND PUMPING OR BY OTHER APPROVED MEANS TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE DRAINAGE SYSTEM.

2. A DIVERSION CHANNEL MAY BE USED TO REDIRECT FLOW DURING CONSTRUCTION OF CULVERTS WITHIN ACTIVE STREAMS AS FOLLOWS:

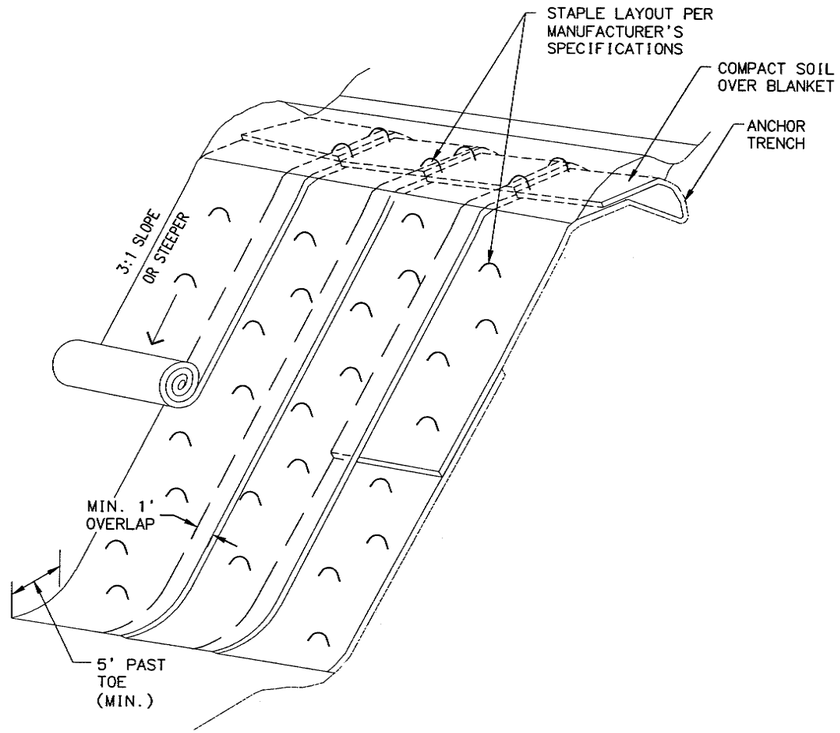
- THE DIVERTED STREAM CHANNEL MUST BE LINED WITH VISQUEEN OR ANOTHER IMPERMEABLE MATERIAL TO PREVENT EROSION OF THE EXPOSED SOILS. THE FABRIC SHOULD BE OVERLAPPED AT THE SEAMS AND THE SEAMS SHOULD BE FACING DOWNSTREAM.
- UNBLOCK THE DOWNSTREAM END OF THE DIVERTED CHANNEL PRIOR TO UNBLOCKING THE UPSTREAM END.
- AFTER OPENING THE DIVERTED CHANNEL, BLOCK THE UPSTREAM END OF THE NATURAL CHANNEL FIRST AND THEN BLOCK THE DOWNSTREAM END OF THE NATUREAL CHANNEL
- WHEN RETURNING FLOW TO THE NATURAL CHANNEL, THE ORDER SHOULD BE THE OPPOSITE OF ABOVE, UNBLOCK THE DOWNSTREAM END OF THE DIVERTED CHANNEL AND FINALLY BLOCK THE DOWNSTREAM END OF THE DIVERTED CHANNEL.





WATTLE BARRIER

1. WATTLES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION OTHER THAN SURVEYING.
2. WATTLE INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" DEEP.
3. WATTLE SHOULD FOLLOW THE CONTOURS OF THE SITE AS CLOSELY AS POSSIBLE. TURN ENDS OF THE WATTLE UPHILL SUCH THAT WATER CANNOT RUNOFF UNDER OR AROUND ROLL.
4. WATTLES SHALL BE USED AS PERIMETER CONTROL TO PREVENT SEDIMENT FROM LEAVING THE SITE.
5. WATTLES CAN BE USED IN PLACE OF SILT FENCE IN AREAS WITH SHEET FLOW TO ALLOW FOR THE MOVEMENT OF EQUIPMENT.
6. REMOVAL OF TRAPPED SEDIMENT TO AN AREA NOT SUBJECT TO EROSION IS REQUIRED WHEN THE SEDIMENT HAS REACHED A HEIGHT OF 3".



EROSION CONTROL BLANKET OR MATTING

1. TOP OF BLANKET MUST BE ANCHORED PER MANUFACTURER'S RECOMMENDATIONS.
2. BLANKET SHOULD BE INSTALLED VERTICALLY DOWN SLOPE.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
4. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

STATE OF ALASKA 49TH
Steven M. Kari
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

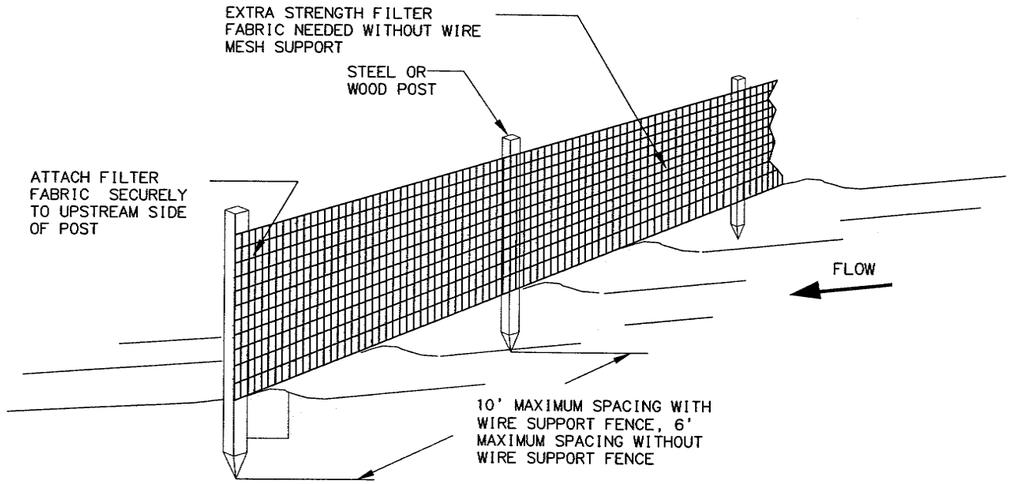
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

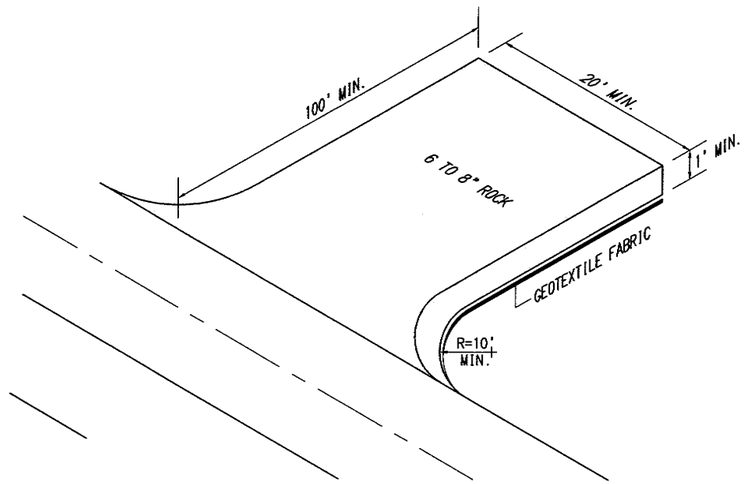
KING COVE ACCESS ROAD COMPLETION

ESCP DETAILS

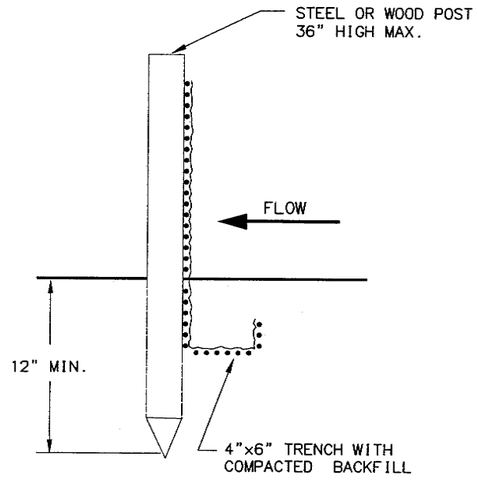
Plotted by: kblair Plotted: Aug 26, 2010 , 11:56am
CTB: DESIGNED BY
PLOT SCALE: 1 CHECKED BY
VIEW= DRAFTED BY Aug 26, 2010
XREFS: F:\117\7500\Dwgs\C\Sheets\117500-P10.dwg
SCALE 1=
COMPUTER DESIGNATION

REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	STP-0001(420)/59791	2010	P11	59

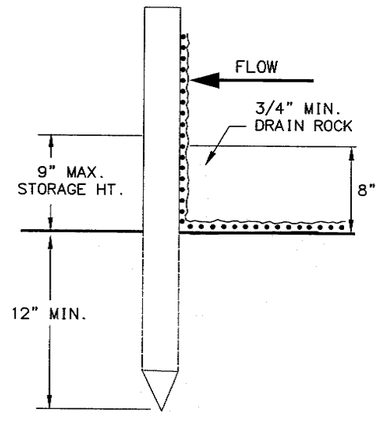




STABILIZED CONSTRUCTION EXIT

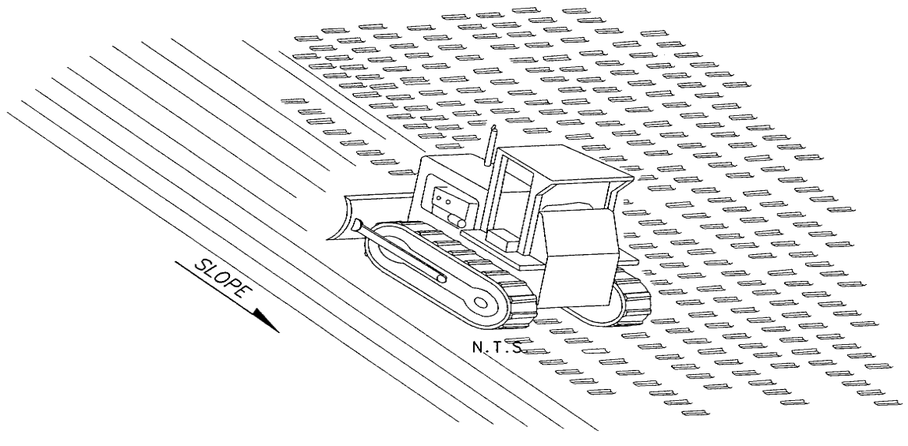


TRENCH DETAIL



INSTALLATION WITHOUT TRENCHING

SILT FENCE DETAIL



SURFACE ROUGHENING
N.T.S.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

ESCP DETAILS

STATE OF ALASKA 49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

Plotted by: kblair
Plotted: Aug 26, 2010 , 11:57am
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
CTB:
PLOT SCALE: 1
VIEW=
XREFS:
SCALE 1=
COMPUTER DESIGNATION
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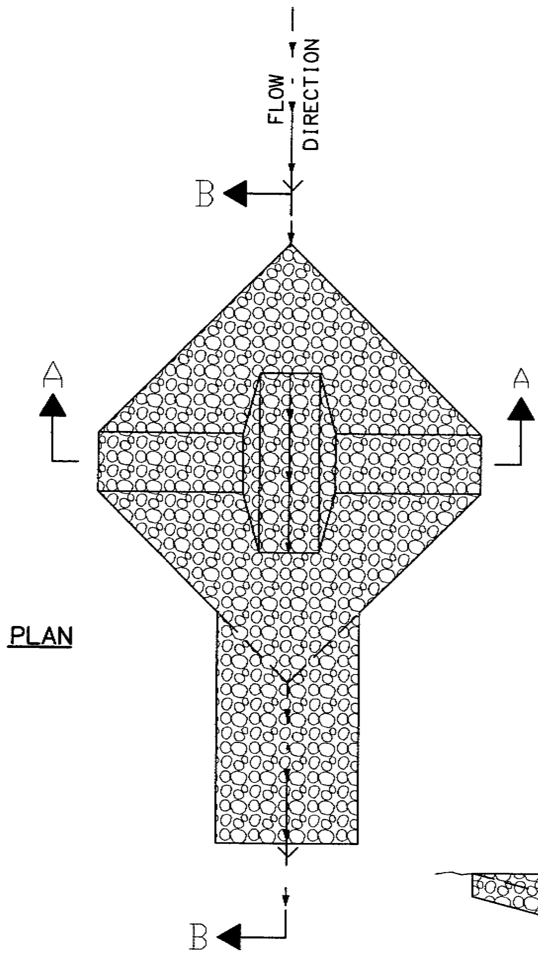
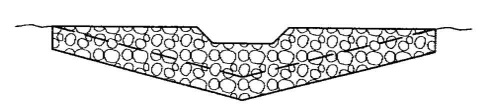
REVISIONS		
No.	DATE	DESCRIPTION

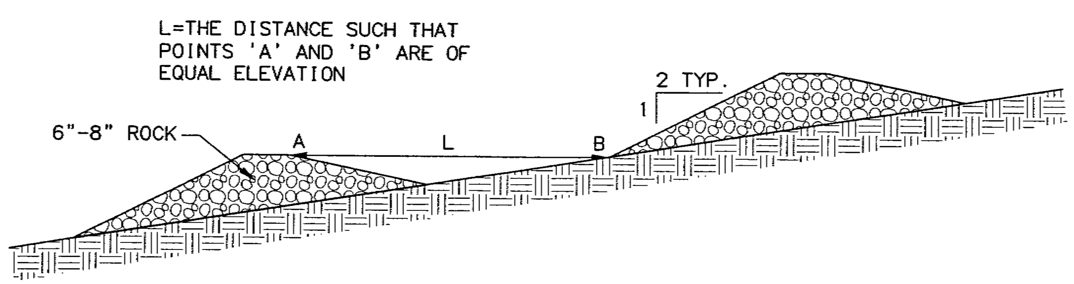
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	STP-0001(420)/59791	2010	P12	59



PLAN



SECTION A-A



SECTION B-B

TEMPORARY CHECK DAM DETAIL

STATE OF ALASKA 49TH Steven M. Kari No. CE 9203 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH INC.

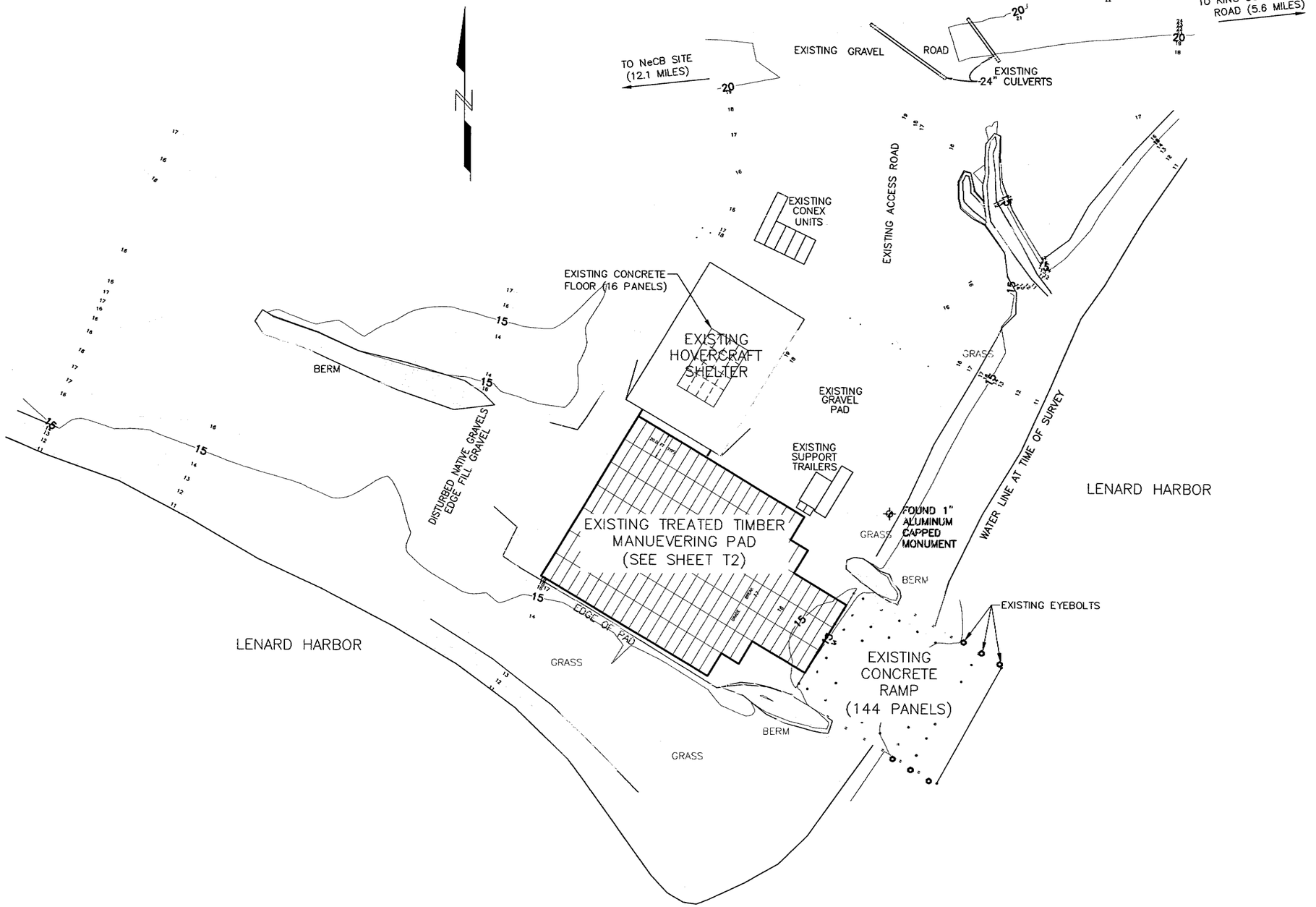
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

ESCP DETAILS

Plotted by: kblair Plotted: Aug 26, 2010 , 11:57am

SCALE 1=	XREFS:	CTB:	DESIGNED BY	
COMPUTER DESIGNATION	I:\1177500\Dwgs\C\Sheets\1177500-P12.dwg	PLOT SCALE: 1 VIEW=	CHECKED BY / DRAFTED BY	Aug 26, 2010



Plotted by: kblair

Plotted: Aug 26, 2010 - 3:24pm

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CTB:	PLOT SCALE:	1
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SHEET NO.	TOTAL SHEETS
T1	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA
49TH
Steven M. Karl
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

EXISTING LENARD HARBOR TERMINAL (TLHT)

SHELTER

EXISTING SUPPORT TRAILERS

TREATED PLYWOOD APRON

20.0 FT (TYP)

EXISTING TREATED TIMBER MANUEVERING PAD
(160 – 7'-8" X 20'-0" PANELS)

GRADE BREAK

50 18.07 · 7090 18.22 · 7091 18.23 · 7092 17.94 · 7093 18.10 · 7094 17.94 · 2432 17.78 · 7095 17.79 · 2433 17.63 · 2434 17.48 · 9000 17.83

7083 18.18 · 7082 18.28 · 7089 18.04 · 7068 17.97 · 7055 17.87 · 7054 17.83 · 7042 17.92 · 7041 17.92 · 2209 16.82 · 7023 17.17 · 7022 16.14 · 7000 15.47

7084 18.12 · 7081 18.01 · 7070 17.83 · 7067 17.63 · 7056 17.57 · 7053 17.53 · 7043 17.62 · 7040 17.39 · 7024 16.95 · 7021 15.95 · 7001 14.72

7025 16.86 · 7020 15.81 · 7002 14.40

7085 18.19 · 7080 17.94 · 7071 17.57 · 7066 17.45 · 7057 17.38 · 7052 17.34 · 7044 17.49 · 7039 17.28 · 7026 16.58 · 7019 15.19 · 7003 14.24

7027 16.38 · 7018 15.00 · 7004 14.16

7086 17.90 · 7079 17.85 · 7072 17.57 · 7065 17.43 · 7058 17.36 · 7051 17.28 · 7045 17.36 · 7038 17.22 · 7028 16.26 · 7017 14.87 · 7005 14.08

7029 16.22 · 7016 14.88 · 7006 14.04

7087 17.77 · 7078 17.92 · 7073 17.83 · 7064 17.81 · 7059 17.66 · 7046 17.56 · 7037 17.53 · 7030 16.42 · 7015 15.13 · 7007 14.20

7031 16.86 · 7014 15.56 · 7008 14.38

7088 18.16 · 7077 18.21 · 7074 18.25 · 7063 18.12 · 7060 18.10 · 7050 18.00 · 7047 18.06 · 7036 18.02 · 7032 17.14 · 7013 15.96 · 7009 14.69

7033 17.45 · 7012 16.34 · 7010 15.82

7089 18.65 · 7076 18.83 · 7075 18.94 · 7062 18.59 · 7061 18.69 · 7049 18.46 · 7048 18.55 · 7035 18.56 · 7034 17.93

80 0 40 80 160

SCALE IN FEET

SHEET NO.	TOTAL SHEETS
T2	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA
49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

TLHT EXISTING
TIMBER PAD

Plotted by: kblair Plotted: Aug 26, 2010 , 3:25pm

CTB:	DESIGNED BY
PLOT SCALE: 1	CHECKED BY
PREVIEW:	DRAFTED BY
	Aug 26, 2010

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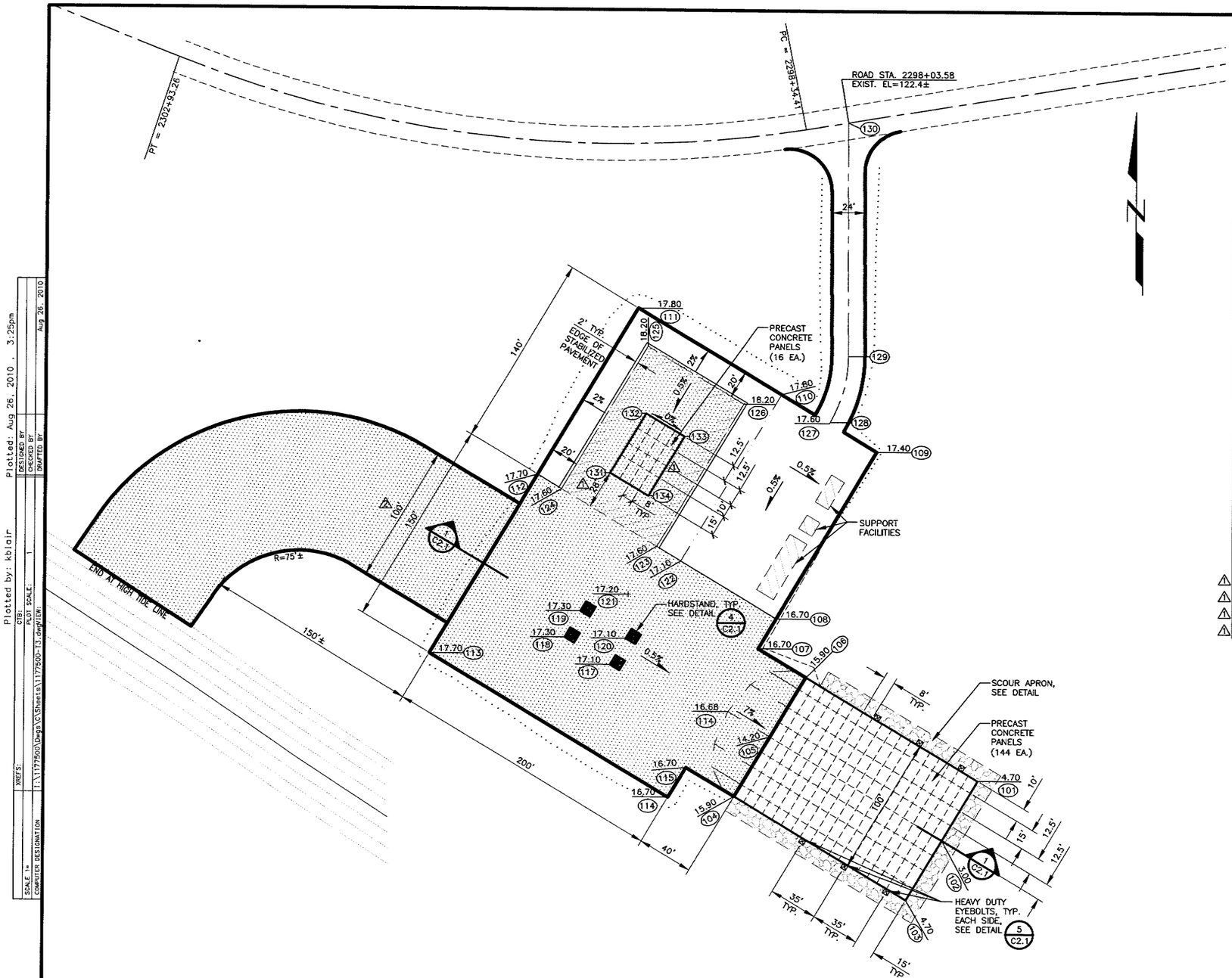

1 / C2.0 SITE PLAN
SCALE: 1"=40'

40 0 20 40 80 120 160
SCALE 1"=40'

COORDINATE TABLE

POINT NO.	NORTHING	EASTING	DESCRIPTION
~~101~~	~~49936.39~~	~~170751.79~~	~~RAMP CORNER~~
102	49893.45	170726.17	RAMP CENTER
103	49850.51	170700.55	RAMP CORNER
104	49932.50	170563.15	RAMP CORNER
105	49975.44	170588.77	RAMP CENTER
106	50018.37	170614.39	RAMP CORNER
107	50038.87	170580.04	RAMP / PAD CORNER
108	50060.34	170592.85	STABILIZED SURFACE CORNER
109	50180.56	170864.59	SERVICE PAD CORNER
110	50221.56	170595.89	EDGE SERVICE PAD / GRADE BREAK
111	50283.05	170492.84	BUILDING PAD CORNER
112	50162.82	170421.10	STABILIZED SURFACE CORNER
113	50034.01	170344.24	MANEUVERING PAD CORNER
114	49931.53	170515.99	MANEUVERING PAD CORNER
115	49953.00	170528.80	RAMP / PAD CORNER
116	49993.57	170558.39	RAMP CENTER AT MANEUVERING PAD
117	50026.67	170473.78	SW CORNER HARDSTAND
118	50046.15	170441.15	SW CORNER HARDSTAND
119	50064.91	170452.34	SW CORNER HARDSTAND
120	50045.44	170484.97	SW CORNER HARDSTAND
121	50077.28	170486.51	MANEUVERING PAD GRADE BREAK
122	50101.33	170524.15	EDGE SERVICE PAD / GRADE BREAK
123	50111.58	170506.98	BUILDING CORNER / GRADE BREAK
124	50152.58	170438.28	BUILDING CORNER / GRADE BREAK
125	50255.62	170499.77	BUILDING CORNER / GRADE BREAK
126	50214.63	170568.47	BUILDING CORNER / GRADE BREAK
127	50201.06	170630.24	CL ACCESS ROAD AT SERVICE PAD
128	50201.90	170630.74	CL ACCESS ROAD PC
129	50249.51	170643.74	CL ACCESS ROAD PT
130	50417.37	170642.89	CL ACCESS ROAD AT ROAD ALIGNMENT
⚠ 131	50164.22	170473.24	CONCRETE PANEL CORNER
⚠ 132	50207.26	170498.86	CONCRETE PANEL CORNER
⚠ 133	50190.86	170526.34	CONCRETE PANEL CORNER
⚠ 134	50147.92	170500.71	CONCRETE PANEL CORNER

ABBREVIATIONS:

ME	MATCH EXISTING
TYP.	TYPICAL

LEGEND

EXISTING	NEW	
		INDEX CONTOUR
19		INTERMEDIATE CONTOUR
		GRAVEL ROAD SHOULDER
		APPROXIMATE TOE OF FILL
		APPROXIMATE TOP OF CUT
		ACRYLIC SOIL STABILIZED PAVEMENT
		CONCRETE
		SCOUR APRON
		FUTURE STRUCTURE (BY OTHERS)

SHEET NO.	TOTAL SHEETS
T3	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA 49TH
Steven M. Kori
No. CE 9203
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

ORIGINAL
TLHT SITE GRADING PLAN

Plotted by: kblair Plotted: Aug 26, 2010 , 3:25pm

	DESIGNED BY	Aug 26, 2010
CTB:	CHECKED BY	
PLOT SCALE: 1	DRAFTED BY	
XREFS:		
SCALE 1=		
COMPUTER DESIGNATION		

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TO TLHT

CONSTRUCT NEW TIMBER MAT MANEUVERING PAD (RESET TIMBER MATS FROM TLHT)

STROBE LIGHT, TYP OF 2

SET WELL PUMP AND CONNECT TO NEW WATER LINE (SEE SHEET T9)

INSTALL SIGN, SEE SHEET D6 SIGN SUMMARY

SET AND SECURE EXISTING SNOW FENCE UNITS AT TOP OF SLOPE (18 EACH-288 LF) (SEE SHEET T6)

SCALE IN FEET

200' WELL PROTECTION

INSTALL PIPE GATE (SEE SHEET T6)

SEE SHEET F12 FOR CONTINUATION

CHAIN BARRIER-TERMINATE AT BEACH LINE

NEW WATERLINE

CONNECT TO EXISTING 1" HDPE WATER LINE (8'± BURY)

GRAVEL PARKING

REGRADE & PLACE 6" CRUSHED AGGREGATE SURFACE COURSE

SEE NOTE 1

SEE NOTE 3

NEW 80' X 120' HOVERCRAFT SHELTER FF=21.5

LIMITS OF 6" CRUSHED AGGREGATE SURFACE COURSE

EXISTING BERM, DO NOT DISTURB

EXISTING GRAVEL STOCKPILE

EXISTING 12" DRAIN

REFLECTOR DELINEATOR (TYP OF 12) (SEE SHEET E6)

SET RELOCATED CONEX UNITS AT EDGE OF PAD

SEE ENLARGED PLAN, BELOW RIGHT

1250 GAL. SEPTIC TANK AND DRAINFIELD (SEE SHEET T8)

100' MIN. SEPARATION

EXISTING 10" DRAIN

MHHW

RIP RAP CLASS III (MAX. OPENING BETWEEN STONES 1'-0")

CONSTRUCT NEW CONCRETE PANEL RAMP (RESET PANELS FROM TLHT)

CONSTRUCT SCOUR APRON TO ELEV. 15.0

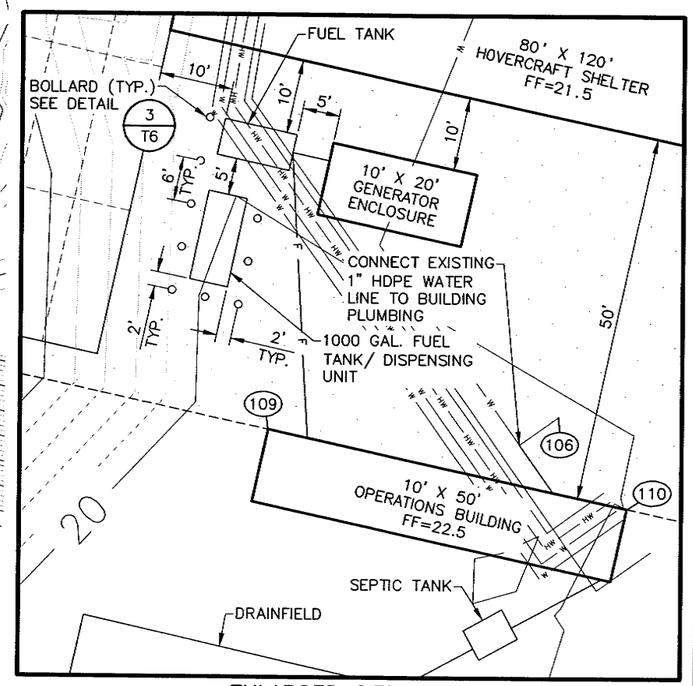
RELOCATE BOULDERS IN THE INTER TIDAL AREA AS SPECIFIED UNDER SECTION 611-3.05

NOTES:

1. WARP TIMBER MAT TO MATCH SHELTER FLOOR AND CONCRETE PANELS.
2. PLACE SCREW ANCHOR IN EVERY OTHER OUTSIDE PANEL.
3. ABANDON EXISTING UNUSED UTILITY LINES IN PLACE (APPROX. 4' BURY).

COORDINATE TABLE

Point #	Northing	Easting	Description
101	98498.80	147135.23	RAMP CORNER
102	98356.40	147104.54	RAMP CORNER
103	98556.53	146758.95	RAMP CORNER
104	98458.78	146737.88	RAMP CORNER
105	98295.18	147105.03	EXISTING WATER LINE
106	98327.28	146940.00	EXISTING WATER LINE
107	98244.89	147047.62	NEW SHELTER
108	98262.32	146966.72	NEW SHELTER
109	98366.81	146938.09	BUILDING CORNER
110	98317.93	146927.56	BUILDING CORNER
111	98391.64	146912.77	DRAINFIELD CORNER
112	98348.70	146903.16	DRAINFIELD CORNER
113	98578.25	146832.53	END CHAIN BARRIER
114	98710.05	146690.54	END RIP RAP



ENLARGED SITE PLAN

SCALE IN FEET

SHEET NO.	TOTAL SHEETS
T4	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

ADDENDUM NO.

ATTACHMENT NO.

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REGISTERED PROFESSIONAL ENGINEER

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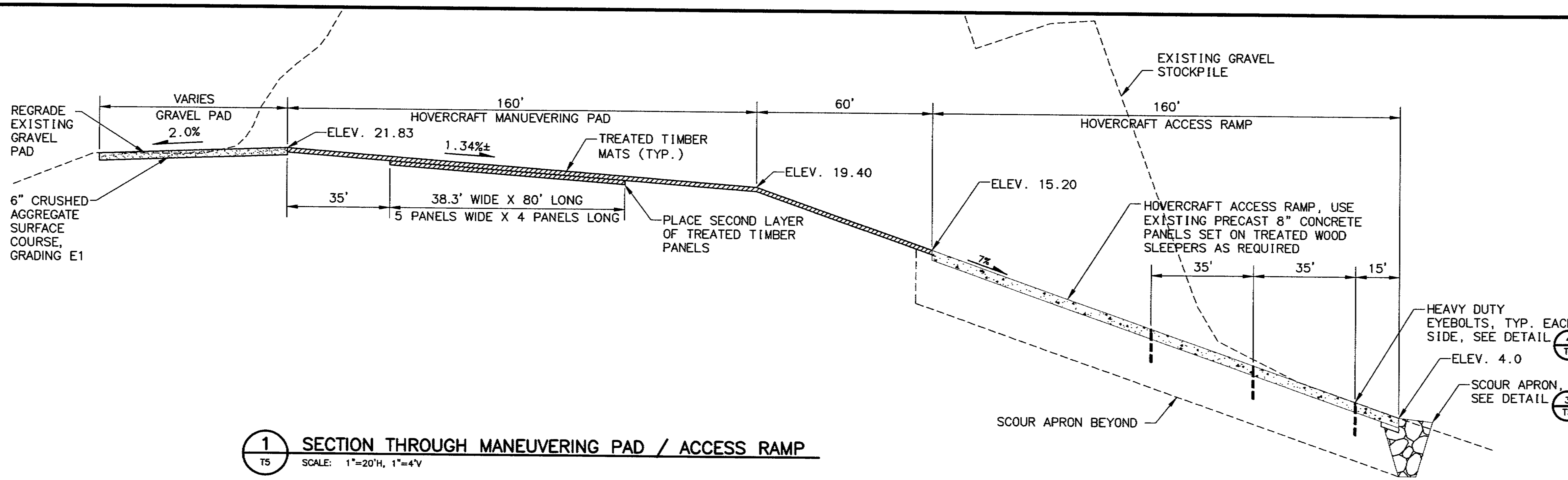
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

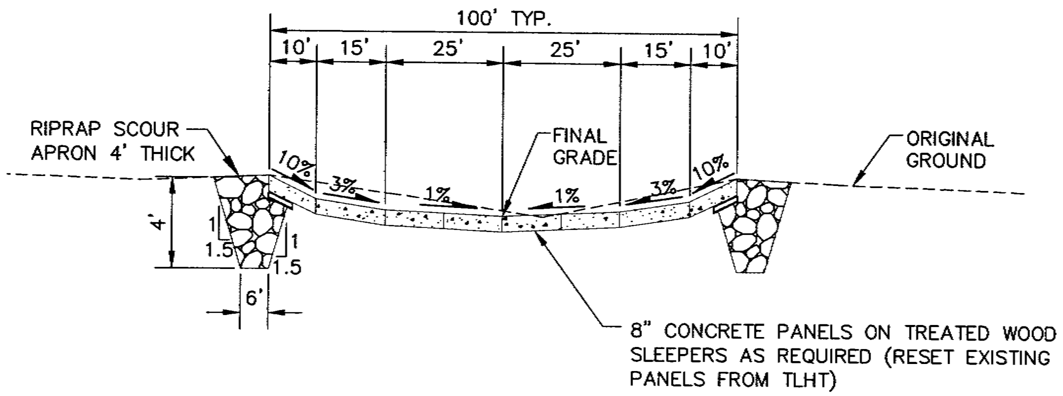
KING COVE ACCESS ROAD COMPLETION

NeCB TERMINAL SITE PLAN

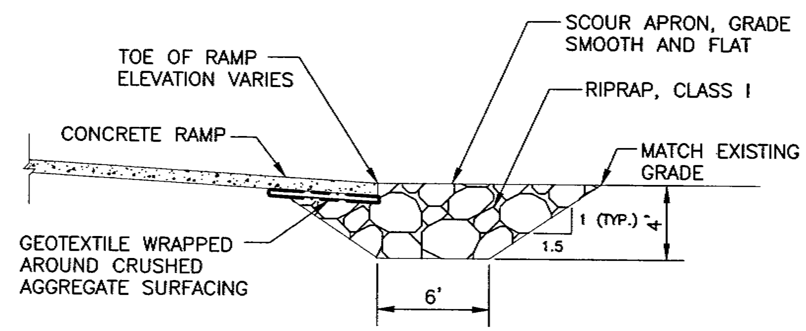
Plotted: Sep 13, 2010 , 12:31pm
Plotted by: chokori
DESIGNED BY
CHECKED BY
DRAFTED BY
PLOT SCALE: 1
PLOT VIEW:
CTB:
XREFS:
SCALE 1"=
COMPUTER DESIGNATION: I:\177500\Dwgs\CS\Sheets\177500-T4.dwg
Sep 13, 2010



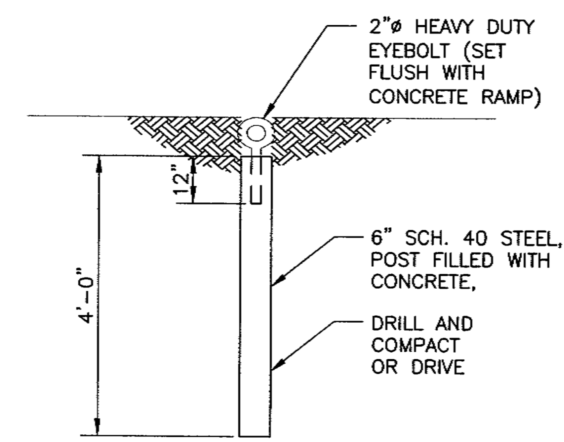
1 (T5) SECTION THROUGH MANEUVERING PAD / ACCESS RAMP
SCALE: 1"=20'H, 1"=4'V



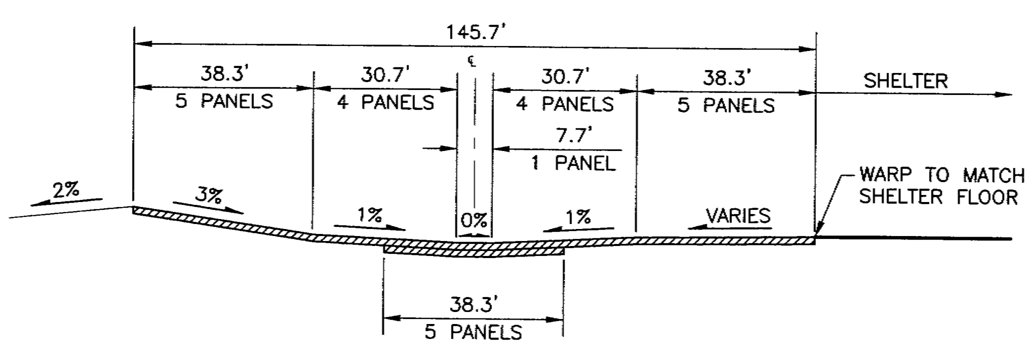
2 (T5) ACCESS RAMP CROSS SECTION
SCALE: 1"=20H, 1"=4'V



3 (T5) SCOUR APRON AT TOE AND SIDES OF RAMP (TO ELEV. 13.0)
SCALE: 1"=5'



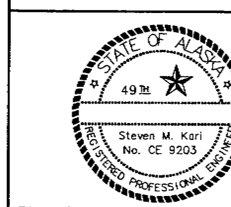
4 (T5) HEAVY DUTY EYEBOLT
SCALE: N.T.S.



5 (T5) MANEUVERING PAD SECTION
SCALE: 1"=20H, 1"=4'V

SHEET NO.	TOTAL SHEETS
T5	59
STATE	YEAR
ALASKA	2010
PROJECT DESIGNATION	
ADDENDUM NO.	
ATTACHMENT NO.	
REVISIONS	

NO.	DATE	DESCRIPTION



PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SECTIONS AND DETAILS

Plotted by: kblair Plotted: Aug 26, 2010 , 3:26pm

DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
XREFS:
CTB:
PLOT SCALE:
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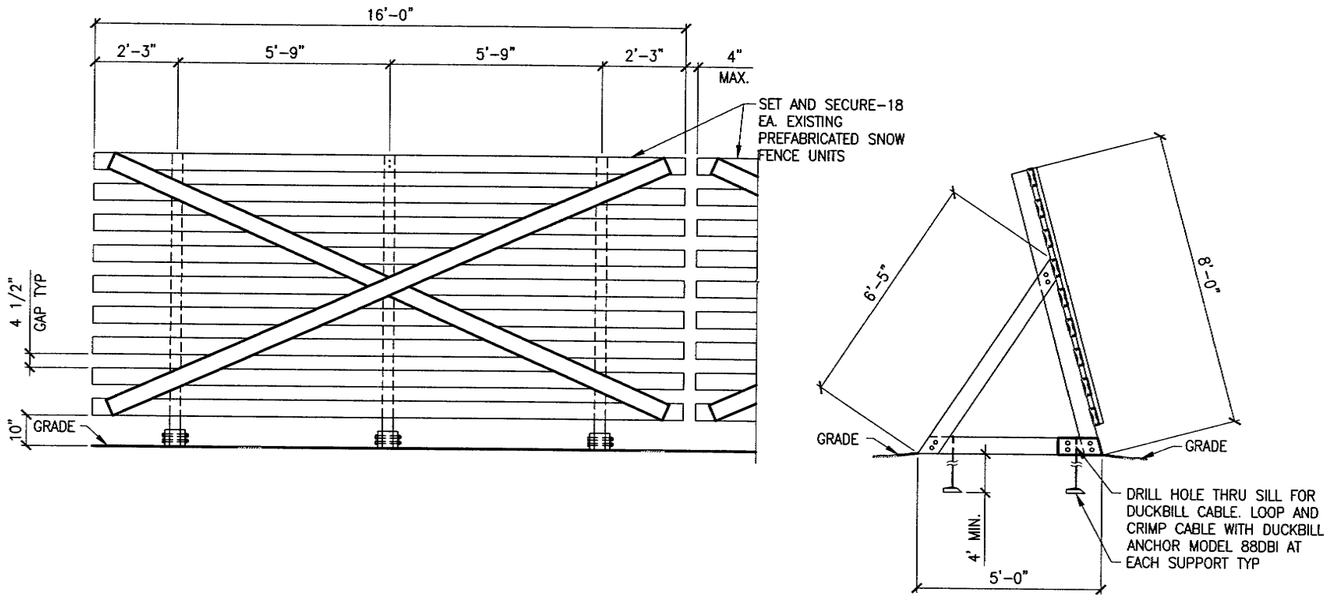
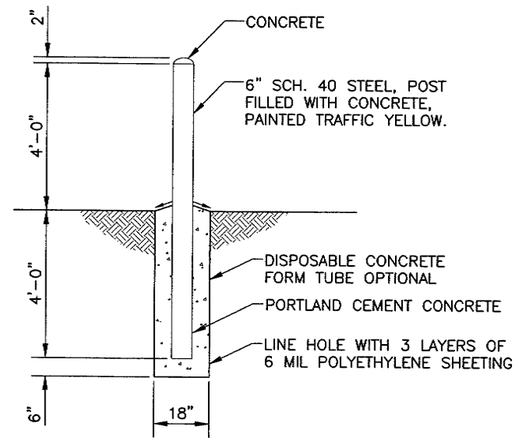
SCALE 1=
COMPUTER DESIGNATION



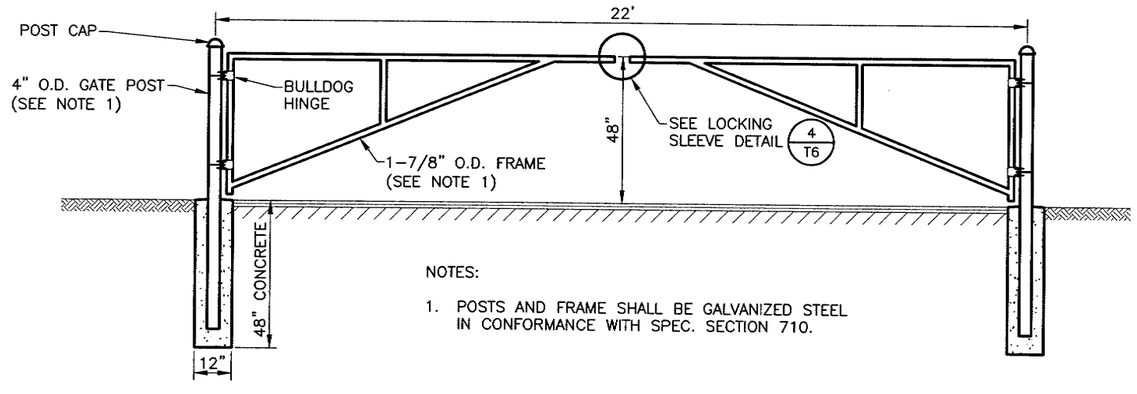
1 T6 SNOW FENCE DETAIL

SCALE: NTS



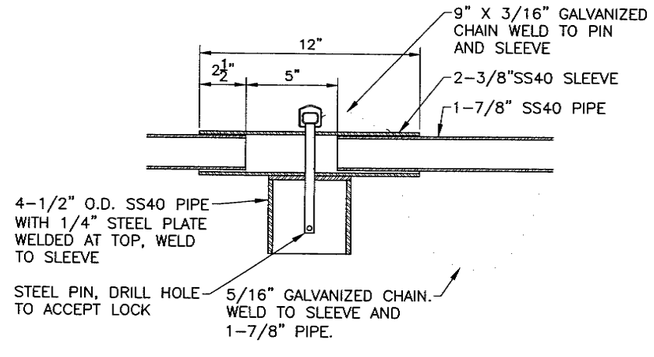
2 T6 BOLLARD DETAIL

SCALE: NTS



3 T6 PIPE GATE DETAIL

SCALE: NTS



4 T6 LOCKING SLEEVE DETAIL

SCALE: NTS

SHEET NO.	TOTAL SHEETS
T6	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SITE DETAILS

Plotted: Aug 26, 2010 - 3:44pm
Plotted by: kblair
DESIGNED BY:
CHECKED BY:
DRAFTED BY:
Aug 26, 2010
CTB:
PLOT SCALE: 1
SCALE: 1"
COMPUTER DESIGNATION
XREFS:
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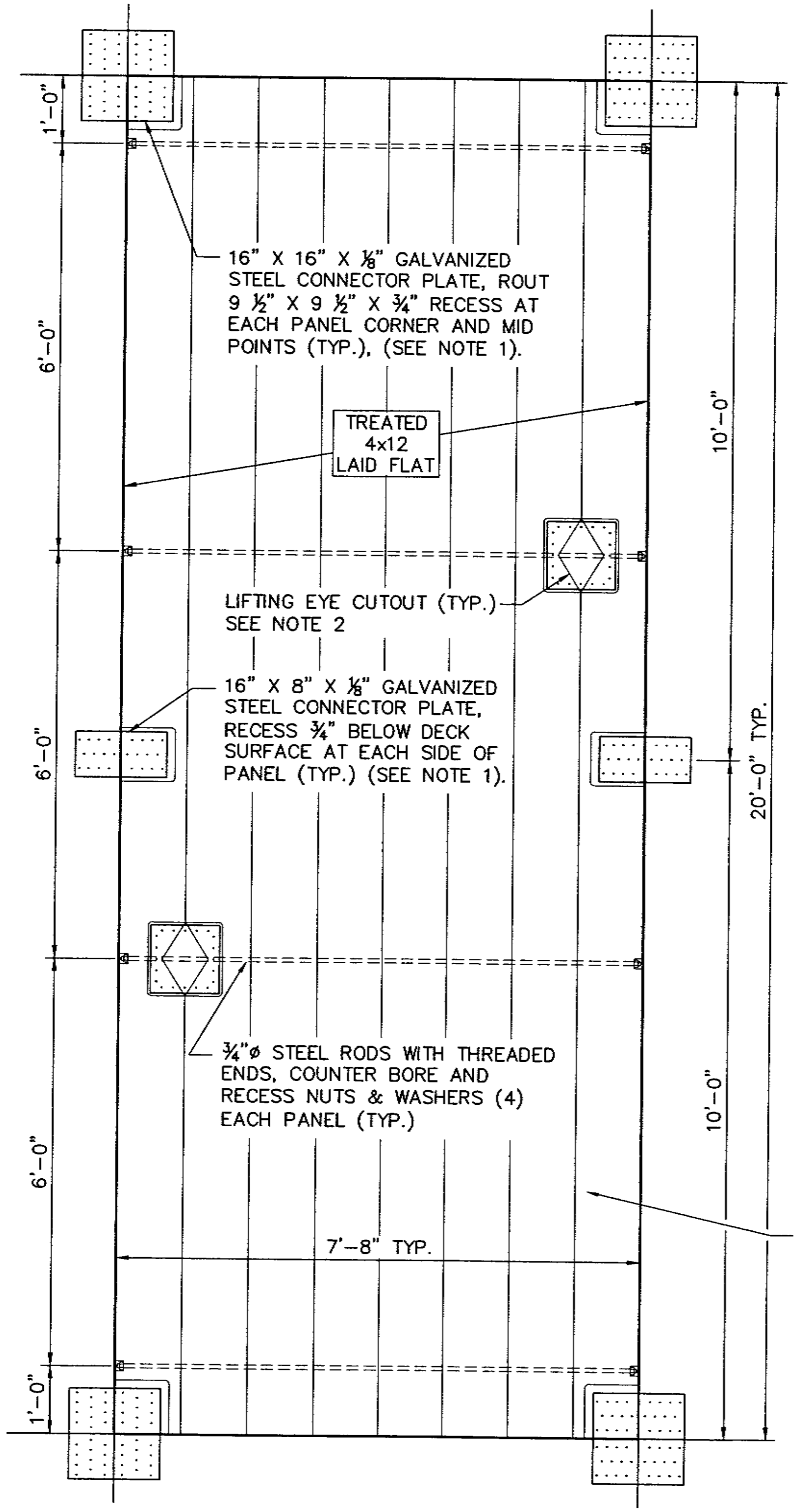
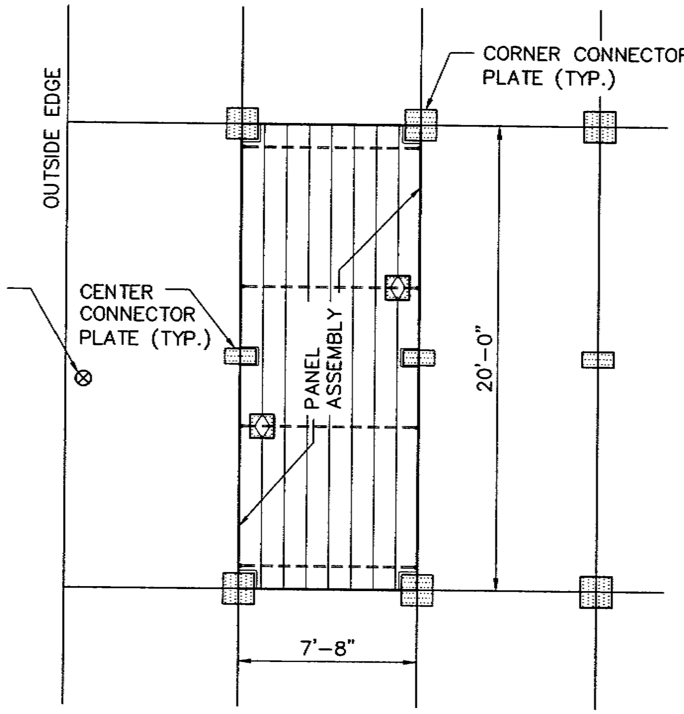
ITEM#:

Plotted by: kblair   Plotted: Aug 26, 2010 , 3:44pm

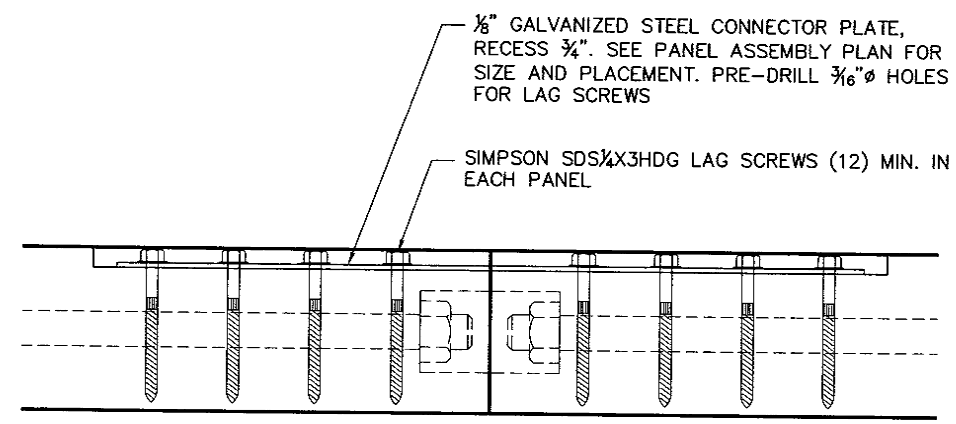
SCALE 1=	
COMPUTER DESIGNATION	I:\177500\Dwgs\C\Sheets\177500-T7.dwg
XREFS:	
CTB:	
PLOT SCALE:	1
DESIGNED BY	
CHECKED BY	
DRAFTED BY	Aug 26, 2010



1 / T7 PANEL ASSEMBLY
SCALE: 3/8"=1'-0"



2 / T7 PANEL LAYOUT
SCALE: 1/8"=1'-0"



4 / T7 PANEL CONNECTION DETAIL
SCALE: 3"=1'-0"

NOTES:

1. APPLY WOOD PRESERVATIVE TO ROUTED AREAS PRIOR TO INSTALLING PLATES OR ANCHORS.
2. AFTER MAT INSTALLATION, COVER LIFTING EYE HOLE WITH 12" X 12" COVER PLATE SIMILAR TO CONNECTION DETAIL.

SHEET NO.	TOTAL SHEETS
T7	59
STATE	YEAR
ALASKA	2010

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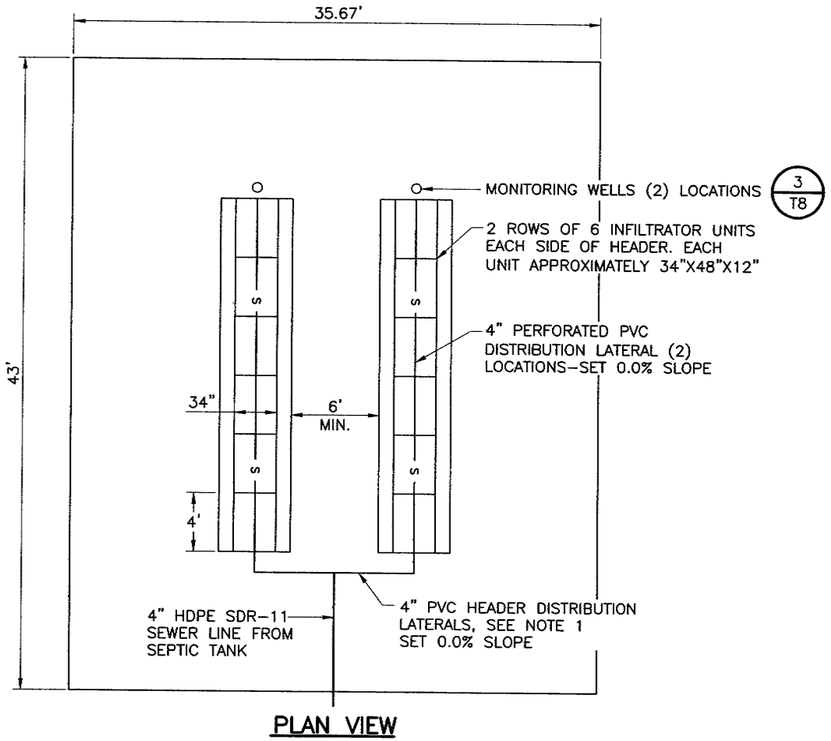
PLANS DEVELOPED BY: USKH INC.

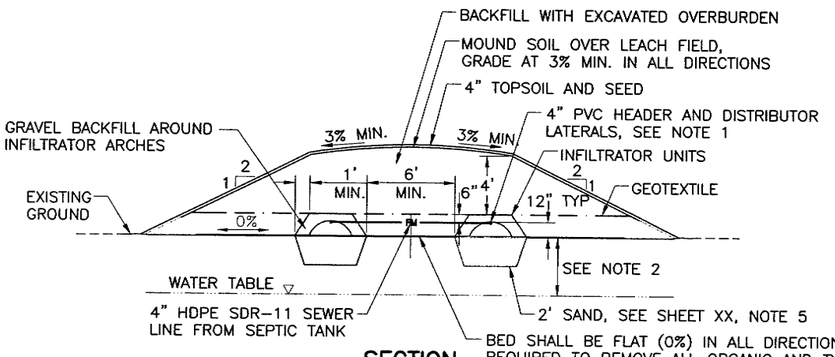
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

SITE DETAILS



PLAN VIEW



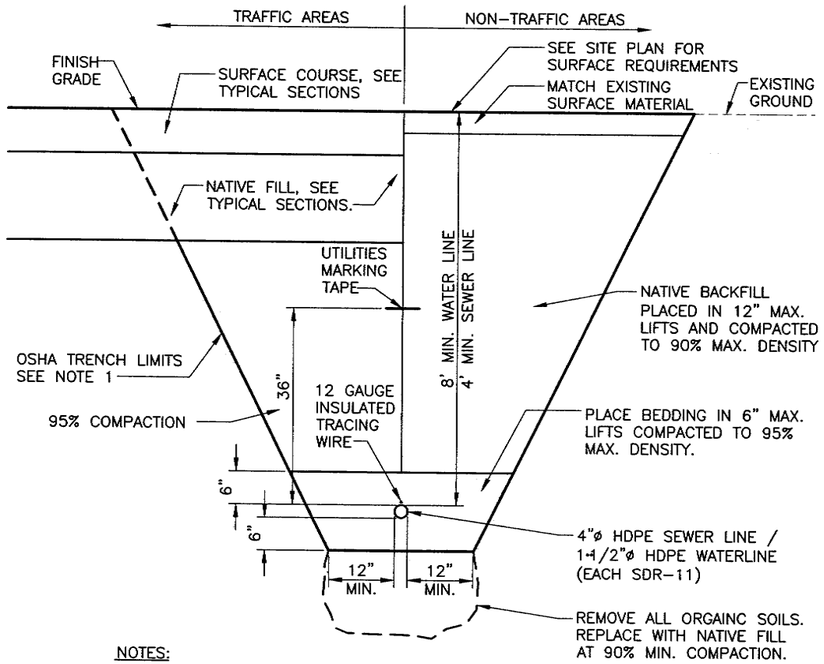
SECTION

NOTES:

1. LATERALS SHALL BE 4" SCHEDULE 40 PVC WITH A 1/4" HOLE DRILLED AT 6' O.C. (5 HOLES PER EACH 25' LATERAL). SUSPEND THE LATERAL FROM THE UNDERSIDE OF INFILTRATOR ARCHES WITH 3/8" WIDE NYLON CABLE TIE STRAPS. SPACE STRAPS 2' O.C.
2. CONTRACTOR SHALL VERIFY DEPTH TO GROUND WATER TABLE. LEACH FIELD ELEVATION SHALL BE ADJUSTED AS REQUIRED TO MAINTAIN AT LEAST 4' SEPARATION BETWEEN BOTTOM OF LEACH FIELD AND GROUND WATER.
3. SEPTIC TANK SHALL BE 1250 GALLON, WELDED STEEL, EPOXY COATED TANK WITH MANHOLE ACCESS AND STANDPIPES FABRICATED FOR INTENDED PURPOSE.

1 T8 LEACH FIELD

SCALE: N.T.S.

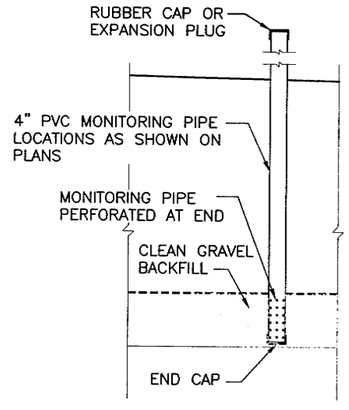


NOTES:

1. TRENCH WALL SLOPES WILL VARY WITH SOIL STRENGTH AND CHARACTERISTICS. SLOPES SHALL CONFORM TO OSHA SAFETY STANDARDS.

2 T8 TYPICAL WATER / SEWER TRENCH SECTION

SCALE: N.T.S.



3 T8 MONITORING WELL

SCALE: N.T.S.

SHEET NO.	TOTAL SHEETS
T8	59
STATE	YEAR
ALASKA	2010

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PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

WATER AND SEWER SECTIONS AND DETAILS

Plotted: Aug 26, 2010 - 3:44pm
Plotted by: kblair
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
SCALE: 1
CTB:
PLOT SCALE:
XREFS:
SCALE: 1"=
COMPUTER DESIGNATION
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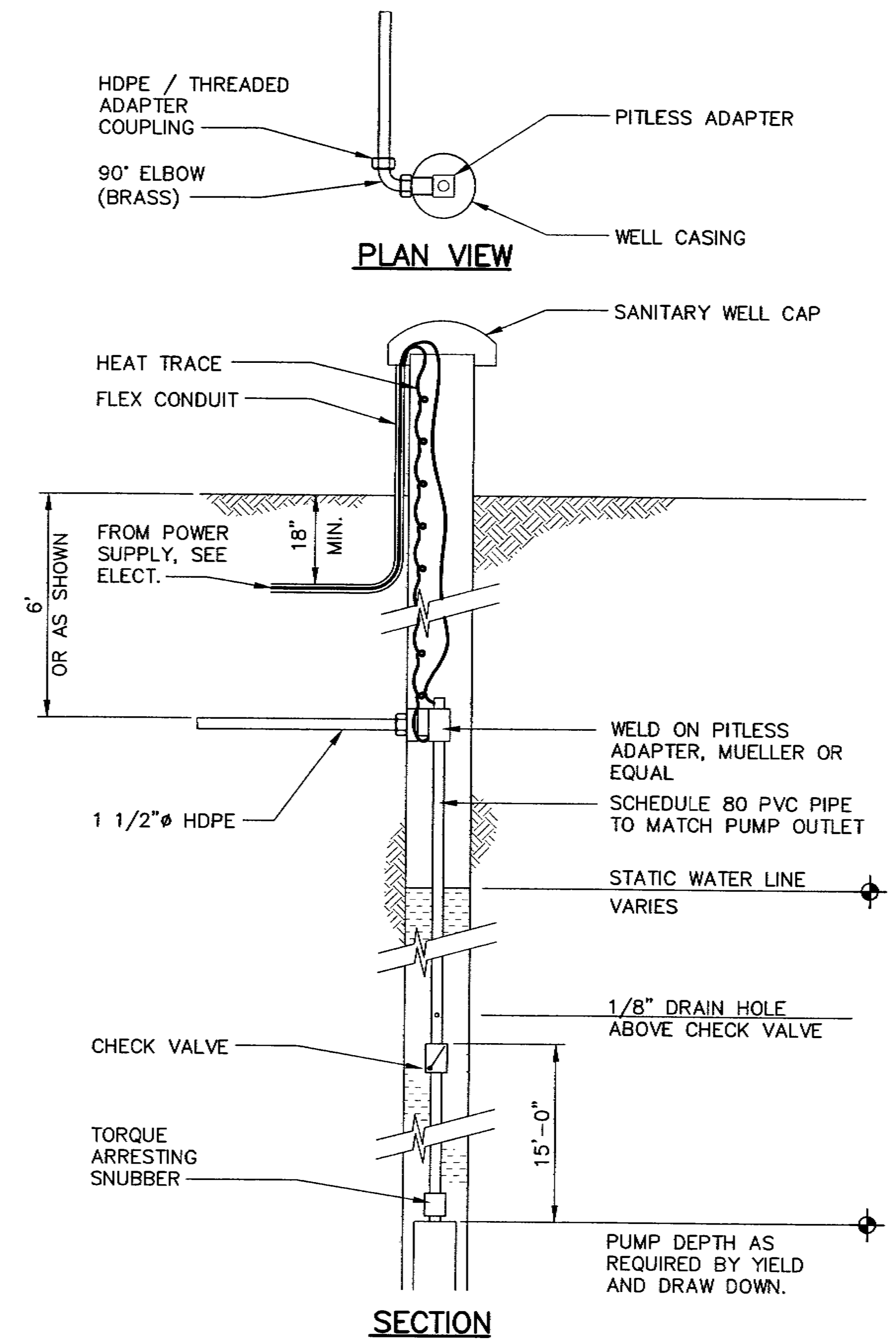
Plotted by: kblair   Plotted: Aug 26, 2010 , 3:45pm



NOTE:
WELL CONNECTION SHALL BE AT 90° TO WELL AS SHOWN. EXTEND HEAT TRACE TO WELL CASING AND INSULATE CONNECTION WITH POURED URETHANE FOAM.

1 / T9 WELL PUMP SETTING DETAIL
SCALE: N.T.S.

ALPINE DRILLING & ENTERPRISES

Permit Number: #SW____ **Date of Issue:** _____ **Parcel Identification Number:**
Date Started: 5-27-05 **Date Completed:** 5-28-05 Is well located at approved permit location? ☒ Yes ☐ No
Legal Description: KCAP Hovercraft Storage Facility King Cove
Property Owner Name & Address: Aleutians East Borough, 3380 C Street, Suite 205, Anchorage, Alaska 99503

Borehole Data:

Soil Type, Thickness & Water Strata	Depth (ft) From	To
stick-up	0	3
gravel fill	3	9
gravelly silt	9	32
silty gravel H20	32	38
gravelly silt	38	42
silty gravel H20	42	44
gravelly silt	44	49
silty gravel H20 Clears	49	53

Method of Drilling ☒ air rotary ☐ cable tool

Casing type: steel
Wall Thickness: .250 inches
Diameter: 6 inches Depth: 50 feet
Liner Type: _____
Diameter: _____ inches Depth: _____ feet
Casing stickup above ground: 3 feet

Static water level (from ground level): +3 feet
Pumping level: 51 feet after 4 hours pumping 10.5 gpm
Recovery Rate: 10.5 gpm
Method of Testing: pump

Well Intake Opening Type:
☐ Open End ☐ Open Hole
☒ Screened Start 48 feet Stopped 53 feet
☐ Perforations Start _____ feet Stopped _____ feet

Grout Type: bentonite granules **Volume:** 3 bgs
Depth: Start 0 feet Stopped 20 feet

Pump: Intake Depth 51 **feet**
Pump size 1/2 hp Brand Name Aermotor

Well Disinfected Upon Completion? ☒ Yes ☐ No
Method of Disinfection: chorine tablets

Comments: *.250 SS screen. Well was pumped down to drawdown depth of 51 feet and held there for the duration of the flow test at 10.5 gpm. Recovery to artesian flow was within 30 minutes. Water was clear and had no adverse taste.*

Well Driller: Alpine Drilling & Enterprises, PO Box 110496, Anchorage AK 99511

Attention: The well driller shall provide a well log to the property owner within 30 days of completion and the property

PITLESS ADAPTER

- Contractor shall furnish and install a pitless well pump adapter at a depth of no less than 10 feet below finished ground level. Pitless adapter shall be a heavy duty style, intended for weld in installation through a window cut in the side of the well casing.

WELL PUMP

- Contractor shall select, furnish, and install a submersible well pump as required to provide the minimum well yield specified, based upon required yield and depth of pump setting recommended by the Contractor.
- Pumps will have an efficiency of greater than 75 percent.
- A check valve shall be integrally designed into the pump discharge housing.
- The pumping down-thrust shall be absorbed by the motor thrust bearing.
- Each impeller shall be fitted with a seal ring around its eye or skirt to prevent hydraulic losses.
- A filter screen shall be included as part of the suction inlet assembly.
- The pump diameter will be optimized and suitable for the casing diameter.

PUMP MATERIALS

- The pump bowls, impellers, guide vanes, strainer, and check valve shall be 300 Series stainless steel. The shaft and coupling shall be 300 or 400 Series stainless steel. No moving parts shall be constructed from plastic or other brittle material.

MOTOR

- The motor diameter will be optimized and suitable for the casing diameter.
- The motor shall be a squirrel-cage induction motor designed for continuous underwater operation in conformance with NEMA standards.
- The motor shall have a Kingsbury-type or Mitchell thrust bearing capable of carrying the maximum thrust loads.
- The motor shall be water filled for cooling and lubrication. No oils or greases shall be used.
- Flexible diaphragms shall be provided to permit expansion and contraction of the internal motor fluid when the motor heats and cools during operation.
- A shaft seal shall be provided to ensure the internal motor fluid is not mixed with the pumped fluid.
- The motor shall be rated for continuous duty when submerged and shall also be capable of operation in the dry for short periods of time for testing and maintenance purposes.
- The motor diaphragms shall be Nitrile Rubber or Type 100 Hydrin.
- The shaft seal shall be a Nirtrile Rubber lip seal of Nitrile, carbon, carbide, and/or ceramic face.
- The motor shall be of 200 or 300 Series stainless steel.
- Power cable shall be specifically designed for submersible pump operation and meet the requirements of NEMA WC 7. Cable shall have an ampacity of not less than 125 percent of the motor full load current.

SHEET NO.	TOTAL SHEETS
T9	59
STATE	YEAR
ALASKA	2010

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PLANS DEVELOPED BY: USKH INC.
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
KING COVE ACCESS ROAD COMPLETION

WATER WELL DETAILS

ELECTRICAL LEGEND

LIGHTING

A	LIGHTING FIXTURE DESIGNATION
	FLUORESCENT LIGHT FIXTURE, SURFACE MOUNT
	FLUORESCENT LIGHT FIXTURE, RECESS MOUNT
	FLUORESCENT LIGHT FIXTURE, WALL MOUNT
	WALL MOUNTED LIGHT FIXTURE
	EXTERIOR SURFACE MOUNT WALL-PAK
	PENDANT LIGHT FIXTURE
	HOVERCRAFT GUIDING LIGHT FIXTURE
	EMERGENCY LIGHT FIXTURE
	EXIT SIGN, CEILING MOUNT, ARROW INDICATES DIRECTION
	EXIT SIGN, WALL MOUNT , ARROW INDICATES DIRECTION
	COMBINATION EXIT & EMERGENCY LIGHT FIXTURE
PC	PHOTOCELL
$	SINGLE POLE SWITCH
$3	3-WAY SWITCH
$4	4-WAY SWITCH
$	SWITCH WITH PILOT LIGHT

SITE ELECTRICAL

— UGE —	ELECTRICAL UNDERGROUND CIRCUIT

NOTATION

X	REFERENCE TO SHEET NOTE
XXX	REFERENCE TO EQUIPMENT SCHEDULE
X	REFERENCE TO REVISION
WP	WEATHERPROOF

POWER / CONTROL

	GFI = GROUND FAULT INTERRUPT
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	SINGLE 240 VOLT RECEPTACLE, NEMA TYPE 7
	SPECAIL PURPOSE RECEPTACLE, WALL/FLOOR MOUNTED
XXX	CONTROL OR TERMINAL CABINET, TYPE AS NOTED
	PANELBOARD, SURFACE/FLUSH MOUNTED
	TRANSFORMER
J	JUNCTION BOX
J	JUNCTION BOX, GRADE OR FLOOR MOUNTED
	EQUIPMENT CONNECTION
	MOTOR
	COMBINATION MOTOR STARTER/DISCONNECT
	NON-FUSED DISCONNECT
	FUSED DISCONNECT
$MS	MOTOR STARTING SWITCH W/ THERMAL OVERLOADS
	GROUND
	PUSHBUTTON CONTROL
	CONDUIT STUBBED & CAPPED OR BUSHED AS NOTED
	RACEWAY UP
	RACEWAY DOWN
	UNDERGROUND OR UNDER FLOOR CIRCUIT
	CIRCUIT CONCEALED / ABOVE CEILING
	BRANCH CIRCUIT HOMERUN WITH GROUND, NEUTRAL AND NUMBER OF HOT WIRES
B-2	INDICATES PANEL AND CIRCUIT NUMBER
	CIRCUIT BREAKER
	NORMALLY CLOSED/NORMALLY OPEN CONTACTS
C	ELECTRICALLY HELD CONTACT, LOCATED BY PANEL

LIGHT FIXTURE SCHEDULE

ID	DESCRIPTION	FIXTURE VOLTAGE	FIXTURE WATTS	LAMPS NO.	LAMPS TYPE	BALLAST NO.	BALLAST TYPE	MOUNTING	MTG HEIGHT	CLG TYPE	MANUFACTURERS CATALOG NO.	NOTES
SPOT	LONG BEAM SPOTLIGHT	120	465	1	400W MH	1	SCWA	PLATFORM	–	–	PHOENIX MS120-400-H-BLSTA400MHQV	1, 4
SLG	SOLAR LIGHT GREEN LED	–	–	–	LED GREEN	–	–	POLE	8'-0"	–	ADB SAWL-4-1-0-1-0	3, 4
SLR	SOLAR LIGHT RED LED	–	–	–	LED RED	–	–	POLE	20'-0"	–	ADB SAWL-1-1-0-1-0	3, 4
HB	ENCLOSED HIGH BAY HID	120	380	1	350 PSMH	1	LLRPSL	SURFACE	–	STR	LITHONIA TPGE-P16GLE-M	
IND	ENCLOSED INDUSTRIAL FLUORESCENT	120	54	2	F32T8	1	ELEC	PENDANT	10'-0"	STR	LITHONIA EIS-232	
FL	SURFACE MOUNTED FLUORESCENT	120	105	3	F32T8	1	ELEC	SURFACE	–	STR	LITHONIA LB332-GEB10IS	
WP	WALL MOUNTED HID EMER FIXTURE	120	96	1 1	70W HPS 35W MR11	1 –	SCWA	WALL	14'-0"	–	LITHONIA WST-70S-MD120SCWA-DC12-PE-WG	2
EM	WALL MOUNTED EMERGENCY FIXTURE	120	–	2	12V MR24	–	–	WALL	8'-0"	–	LITHONIA ELM1254	
EX	COMBINATIONAL EXIT SIGN & EMER. FIXTURE	120	–	2	6V MR24	–	–	WALL	8'-0"	–	LITHONIA LHQM-S-HO	

ABBREVIATIONS:

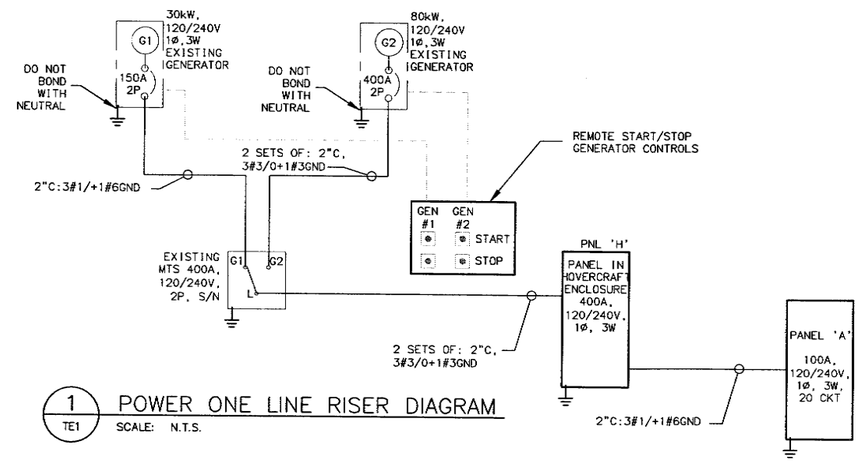
GWB = GYPSUM WALL BOARD
GRID = LAY-IN GRID
STR = EXPOSED STRUCTURE
ELEC = ELECTRONIC
HPF = HIGH POWER FACTOR
CWA = CONSTANT WATTAGE AUTOTRANSFORMER
MH = METAL HALIDE
HPS = HIGH PRESSURE SODIUM
QTZ = QUARTZ
SFP = SEE FLOOR PLAN
SMHS = SEE MOUNTING HEIGHT SCHEDULE

GENERAL NOTES:

1. MOUNTING HEIGHTS SHOWN ARE TYPICAL FOR FIXTURE TYPE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

LIGHT FIXTURE SCHEDULE NOTES:

1. MOUNT LONG BEAM SPOTLIGHT ON TOP OF THE HOVERCRAFT DOOR ON ITS NORTH-WEST CORNER. PROVIDE ALL REQUIRED MOUNTING HARDWARE.
2. PROVIDE REMOTE BATTERY PACK FOR EMERGENCY EXTERIOR LIGHT. INSTALL BATTERY PACK INSIDE HEATED BUILDING
3. FIELD VERIFY POLE HEIGHT REQUIRED TO PLACE FIXTURE AT 40 FEET ABOVE SEA LEVEL.
4. PROVIDE WIRE GUARD AROUND LIGHT FIXTURE.



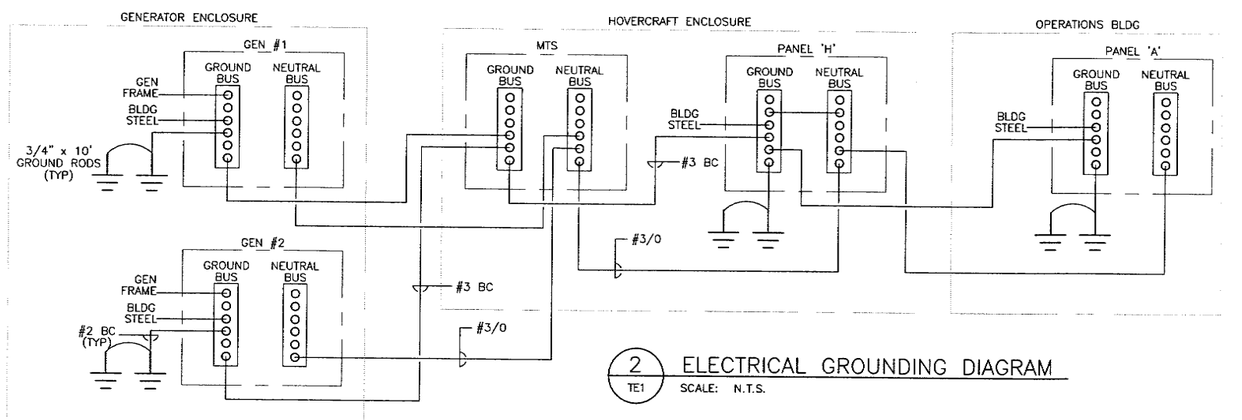
1 / TE1 POWER ONE LINE RISER DIAGRAM
SCALE: N.T.S.

MOUNTING HEIGHT SCHEDULE

EQUIPMENT	HEIGHT (IN)
LIGHT SWITCHES	48
CONVENIENCE OUTLETS (NOTE 4)	24
CONVENIENCE OUTLETS ABOVE COUNTERS (NOTE 3)	6 ABOVE COUNTER (BACKSPLASH WHERE PRESENT)
MOTOR CONTROLLERS / DISCONNECT SWITCHES	66 TO TOP
PANELBOARDS AND CONTROL PANELS	74 TO TOP
WALL MOUNTED EXIT SIGNS	6 ABOVE DOOR FRAME TO BOTTOM OF FIXTURE

NOTES:

1. MOUNTING HEIGHTS ARE FROM ABOVE FINISHED FLOOR (INTERIOR) OR ABOVE FINISHED GRADE (EXTERIOR), UNLESS OTHERWISE NOTED
2. MOUNTING HEIGHTS ARE TO CENTER OF DEVICE, UNLESS OTHERWISE NOTED
3. OPTIONAL MOUNTING FOR OUTLETS ABOVE COUNTERS IN TIGHT SPACES: 2.5 IN ABOVE COUNTER (BACKSPLASH) MOUNTED HORIZONTALLY.



2 / TE1 ELECTRICAL GROUNDING DIAGRAM
SCALE: N.T.S.

SHEET NO.	TOTAL SHEETS
TE1	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION
59791

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA 49TH
AASHISH SHAHANI EE-12343
REGISTERED PROFESSIONAL ENGINEER

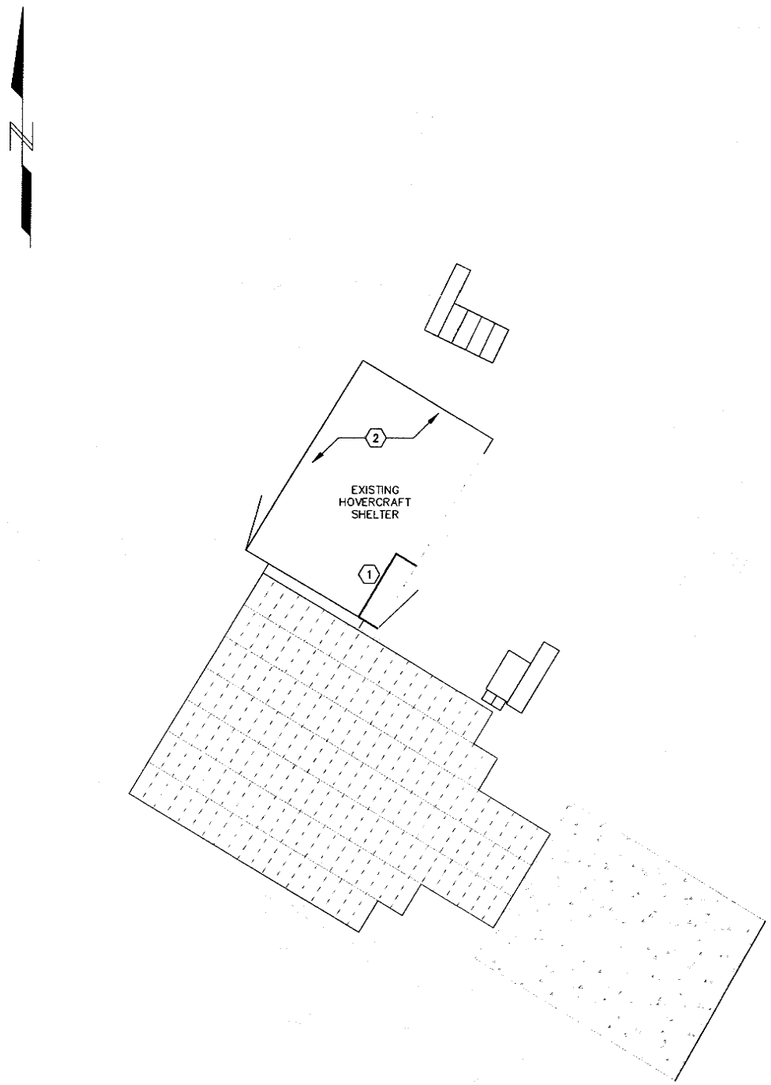
PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

ELECTRICAL ONE LINE RISER AND GROUNDING DIAGRAMS + LEGEND AND SCHEDULES

Plotted: Aug 26, 2010 - 3:27pm
Plotted by: kblair
DESIGNED BY
CHECKED BY
DRAFTED BY
Aug 26, 2010
XREFS:
CTB:
PLOT SCALE: 1
SCALE 1=
COMPUTER DESIGNATION: I:\117500\Dwgs\E\Sheets\117500_TE1.dwg



1 TE2 SITE DEMOLITION PLAN
SCALE: 1"=40'-0"

80 0 40 80 160
SCALE IN FEET

SHEET NOTES:

1. DISCONNECT AND SALVAGE EXISTING 30 KW AND 80 KW DIESEL GENERATORS, MANUAL TRANSFER SWITCH, AND APPURTENANCES FOR REUSE PER SHEET TE3. DISCONNECT, SALVAGE AND HAND OVER TO OWNER EXISTING BRANCH DISTRIBUTION PANEL AND APPURTENANCES. DISPOSE OFF ANY UNWANTED ITEMS FROM PROJECT SITE.
2. DISCONNECT, SALVAGE AND HAND OVER TO OWNER EXISTING LIGHT FIXTURES, RECEPTACLE OUTLETS AND ALL ASSOCIATED CONDUIT AND CONDUCTORS. DISPOSE OFF ANY UNWANTED ITEMS FROM PROJECT SITE.

SHEET NO.	TOTAL SHEETS
TE2	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION
59791

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA 49TH
AASHISH SHAHANI
EE-12343
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

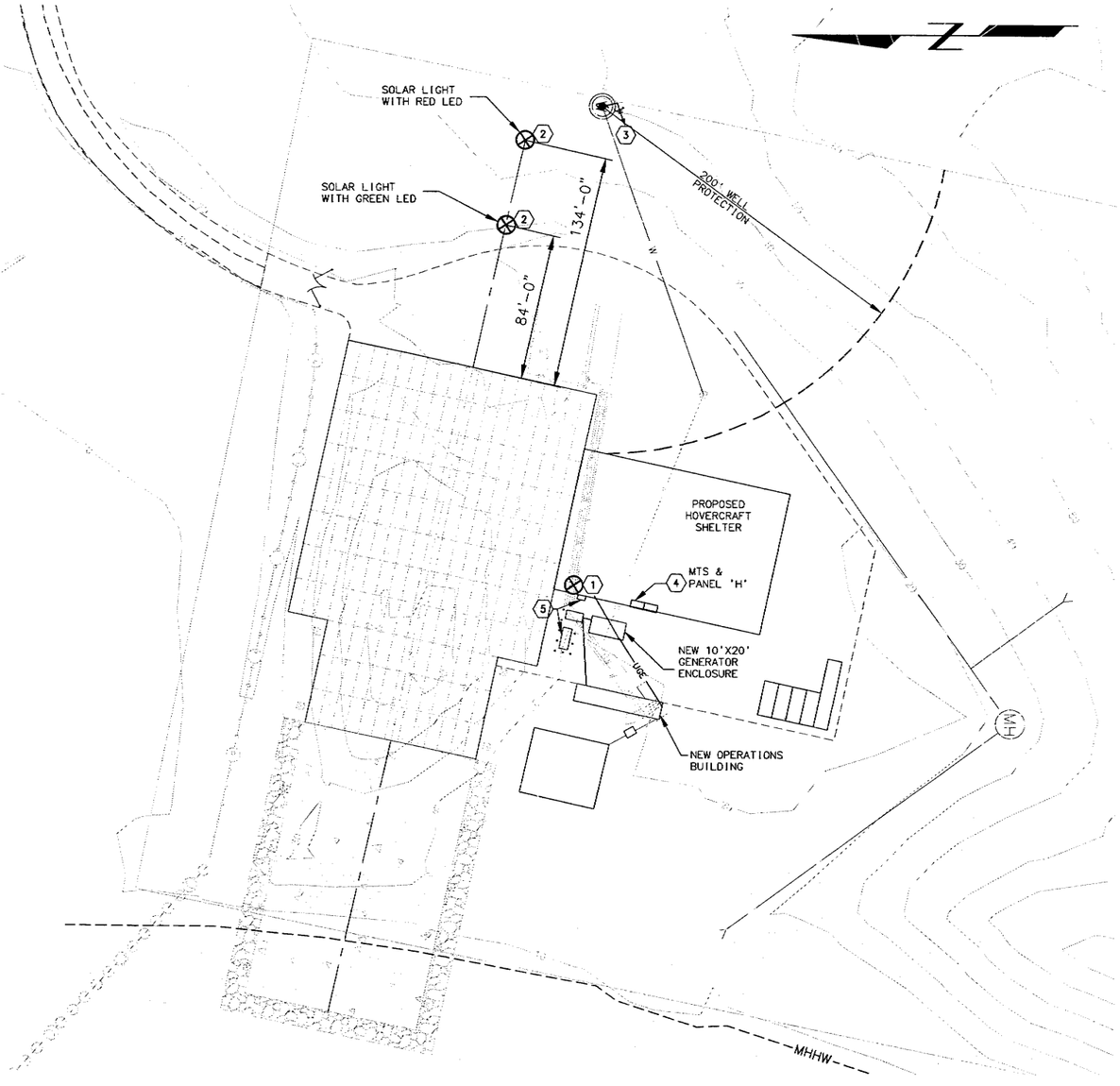
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

DEMOLITION PLAN OF ELECTRICAL SYSTEMS AT THE EXISTING FACILITY

Plotted: Aug 27, 2010 - 9:59am
Plotted by: kblair

CTB:	
XREFS:	
SCALE: 1=	DESIGNED BY
	CHECKED BY
PLOT SCALE: 1	DRAFTED BY
COMPUTER DESIGNATION: I:\1177500\Dwgs\E\Sheets\1177500_TE2.dwg	Aug 27, 2010



1 / TE3 SITE PLAN – ELECTRICAL
SCALE: 1"=40'-0"

40 0 20 40 80 120 160
SCALE 1"=40'

PANEL 'H'

CKT	LOAD	BRANCH BKR	BRANCH VA	CONN KVA A	CONN KVA B	BRANCH VA	BRANCH BKR	LOAD	CKT
1	PANEL 'A'	100/2	9290	11.2		1954	20/1	HIGH BAY LIGHTS	2
3			8405		10.4	2008	20/1	HIGH BAY LIGHTS	4
5	HOVERCRAFT RECEPTACLES	100/2	8320	9.4		1080	20/1	RECEPTACLES	6
7			8320		9.4	1080	20/1	RECEPTACLES	8
9	HOVERCRAFT RECEPTACLES	100/2	2496	4.4		1920	30/1	OHD-1	10
11			2496		4.4	1920	30/1	OHD-2	12
13	UH-1	50/2	5000	6.9		1920	30/1	FUELING STATION	14
15			5000		7.9	2880	50/1	EF	16
17	UH-2	50/2	5000	5.0			20/1	SPARE	18
19			5000		5.0		20/1	SPARE	20
21	WELL PUMP (5HP)	60/2	3360	3.4			20/1	SPARE	22
23			3360		3.4				24
25	HOVERCRAFT BLOCK HEATER	20/2	1500	1.5					26
27			1500		1.5				28
29	HOVERCRAFT BLOCK HEATER	20/2	1500	1.5					30
31			1500		1.5				32
33				0.0					34
35					0.0				36
37				0.0					38
39					0.0				40
41				0.0					42
	CONNECTED LOAD	86.8 KVA / 362 AMPS		43.3	43.5	361	362		
	NEC DEMAND	87.9 KVA / 366 AMPS							

PANEL NOTES

PANEL SPECIFICATIONS
MAINS RATING AMPS – 400
MAIN CIRCUIT BREAKER AMPERES – MCB
CAPACITY ONE–POLE CIRCUITS – 42
SYSTEM VOLTAGE – 240/120
PHASE, NO. OF WIRES – 1 PH, 3 W
AIC RATING – 10,000
MOUNTING – SURFACE

SHEET NOTES:

1. PROVIDE SPOTLIGHT TO HELP LOCATE TERMINAL FROM HOVERCRAFT. MOUNT SPOTLIGHT ON A PLATFORM ON TOP CORNER OF OVERHEAD DOOR TO HOVERCRAFT ENCLOSURE. PROVIDE WIREGUARD FOR FIXTURE AND ALL REQUIRED HARDWARE AND ACCESSORIES.
2. PROVIDE HOVERCRAFT GUIDING LIGHT WITH COLORED LED AS INDICATED ON PLAN TYPE ADB#SAWL OR APPROVED EQUAL. PROVIDE SOLAR AVIATION LIGHT WITH BUILT–IN SECURE WIRELESS CONTROL SYSTEM TO CONTROL LIGHTS. MOUNT LIGHTS ON POLES TO ALIGN TOP OF LIGHTS AT 40 FEET ABOVE SEA LEVEL. PROVIDE (2) WIRELESS HAND–HELD CONTROLLERS # SAWL–HC PROGRAMMED TO CONTROL BOTH THE LIGHTS. PROVIDE BIRD DETERRENT KIT #53097 FOR EACH LIGHT..
3. PROVIDE POWER FOR 5HP, 240V WELL PUMP USING 2#6+1#10GND IN 1" UNDERGROUND CONDUIT. COORDINATE EXACT LOCATION OF WELL PUMP EXPANSION TANK AND CONTROLLER IN FIELD.
4. RELOCATE EXISTING MANUAL TRANSFER SWITCH. MOUNT TRANSFER SWITCH AND NEW PANEL 'H' ON UNISTRUTS. COORDINATE EXACT LOCATION IN FIELD WITH OWNERS REPRESENTATIVE.
5. PROVIDE POWER FOR FUELING STATION. PROVIDE 2–POLE PUSHBUTTON EMERGENCY DISCONNECT FOR FUELING STATION. MOUNT THE EMERGENCY DISCONNECT ON UNISTRUTS INSIDE THE HOVERCRAFT ENCLOSURE (BETWEEN 20 AND 100 FEET FROM FUELING STATION). LABEL PUSHBUTTON WITH 'EMERGENCY FUEL SHUT–OFF'.

SHEET NO.	TOTAL SHEETS
TE3	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION
59791

ADDENDUM NO.

ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

STATE OF ALASKA 49TH
AASHISH SHAHANI
EE-12343
REGISTERED PROFESSIONAL ENGINEER

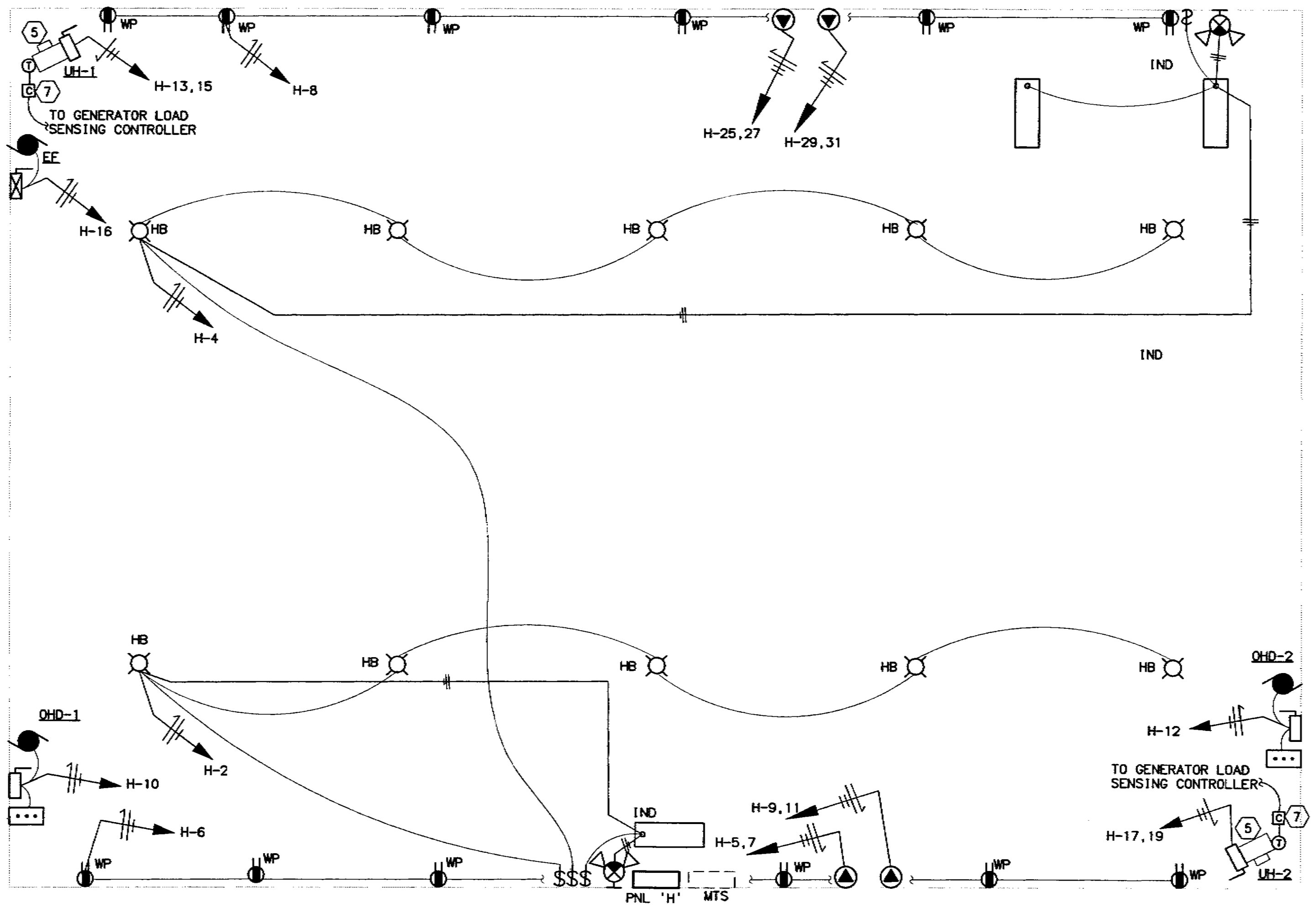
PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS
ROAD COMPLETION

NeCB TERMINAL
SITE ELECTRICAL PLAN

Plotted by: kblair Plotted: Aug 27, 2010 , 9:59am
CTB: DESIGNED BY:
PLOT SCALE: 1 CHECKED BY:
PLOT WIDTH: DRAFTED BY: Aug 27, 2010
XREFS:
SCALE 1=
COMPUTER DESIGNATION: I:\177500\Cwp\XE\Sheets\177500_TE3.dwg



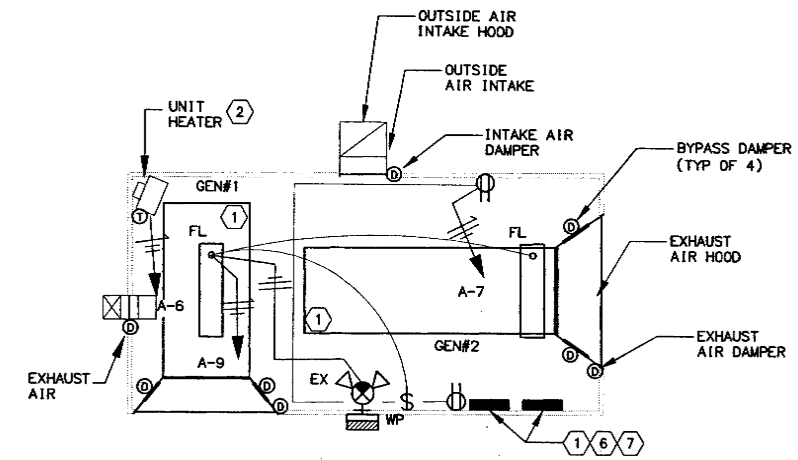
2 TE4 ELECTRICAL PLAN – HOVERCRAFT SHELTER
SCALE: 1/8" = 1'-0"

PANEL 'A'

CKT	LOAD	BRANCH BKR	BRANCH VA	CONN KVA A	CONN KVA B	BRANCH VA	BRANCH BKR	LOAD	CKT
1	RECEPTACLES – OPS BLDG	20/1	1440	2.3		1137	20/1	LIGHTING – OPS BLDG	2
3	RECEPTACLES – OPS BLDG	20/1	1440		3.9	2500	30/2	UNIT HEATER – OPS BLDG	4
5	UNIT HEATER – OPS BLDG	30/2	2500	5.0		2500			
			2500		4.2	1650	20/2	UNIT HEATER – GEN ENCL	6
7	RECEPTACLES – GEN ENCL	20/1	360	2.0		1650			
9	LIGHTING – GEN ENCL	20/1	411		0.3	0	20/1	SPARE	8
11				0.0					10
13					0.0				12
15				0.0					14
17					0.0				16
	CONNECTED LOAD	17.7 KVA		9.3	8.4				
		74 AMPS		77	70				
	NEC DEMAND	18.0 KVA							
		75 AMPS							

PANEL NOTES

PANEL SPECIFICATIONS
MAINS RATING AMPS – 100
MAIN CIRCUIT BREAKER AMPERES – MCB
CAPACITY ONE-POLE CIRCUITS – 20
SYSTEM VOLTAGE – 240/120
PHASE, NO. OF WIRES – 1 PH, 3 W
AIC RATING – 10,000
MOUNTING – SURFACE



1 TE4 ELECTRICAL PLAN – GENERATOR ENCLOSURE
SCALE: 1/4" = 1'-0"

VENTILATION SEQUENCE:

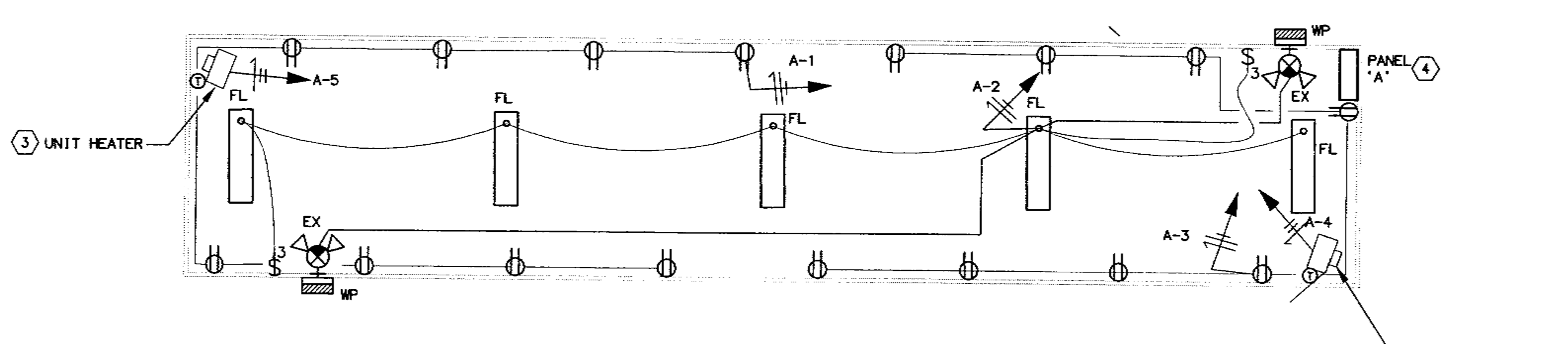
HEATING/COOLING
HEATING SETPOINT: 50 DEG F (ADJUSTABLE 40-70 DEG F). UNIT HEATER CYCLES TO MAINTAIN SETPOINT

COOLING SETPOINT: 80 DEG F (ADJUSTABLE 70-90 DEG F) AS TEMPERATURE RISES, INTAKE DAMPER OPENS TO 20%, EXHAUST FAN DAMPER OPENS, AND EXHAUST FAN STARTS

GENERATOR VENTILATION
WHEN GENERATOR STARTS, OUTSIDE AIR INTAKE DAMPER OPENS, EXHAUST AIR DAMPER OPEN TO 20% AND BYPASS DAMPERS OPEN TO 100%; EXHAUST AIR AND BYPASS DAMPERS SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT, 60 DEG F (ADJUSTABLE).

SHEET NOTES:

1. RELOCATE EXISTING GENERATORS AND THE GENERATOR CONTROL PANELS TO NEW GENERATOR ENCLOSURE. MAINTAIN 3'-0" CLEAR SPACE AROUND THE SIDES OF GENERATORS., AND IN FRONT OF THE CONTROL PANELS.
2. PROVIDE 3kW, 240V, ELECTRIC UNIT HEATER, WITH LOCAL THERMOSTAT AND DISCONNECT SWITCH. ACCEPTABLE MANUFACTURES AND MODELS:
   CHROMALOX HVH-04-21-00
   CADET TYPE CEH003-P
   QMARK MUH03-21, OR APPROVED EQUAL.
3. PROVIDE 5kW, 240V, ELECTRIC UNIT HEATER, WITH LOCAL THERMOSTAT AND DISCONNECT SWITCH. ACCEPTABLE MANUFACTURES AND MODELS:
   CHROMALOX HVH-05-21-00
   CADET TYPE CEH005-P
   QMARK MUH05-21, OR APPROVED EQUAL.
4. PROVIDE 20 CIRCUIT, 1Ø, 120/240V, 100A MCB, SQUARE D TYPE NQOD20M100 PANELBOARD OR APPROVED EQUAL.
5. PROVIDE 10kW, 240V, ELECTRIC UNIT HEATER, WITH LOCAL THERMOSTAT AND DISCONNECT SWITCH. ACCEPTABLE MANUFACTURES AND MODELS:
   CHROMALOX HVH-10-21-34
   QMARK MUH10-2
   CADET TYPE CEH010-P, OR APPROVED EQUAL.
6. PROVIDE REMOTE START/STOP PUSHBUTTONS TO START UP AND SHUT-DOWN EACH GENERATOR FROM THE HOVERCRAFT ENCLOSURE. PROVIDE ALL REQUIRED HARDWARE AND ACCESSORIES TO MODIFY EXISTING GENERATOR CONTROL PANEL.
7. PROVIDE LOAD SENSING (CURRENT SENSING) RELAYS ON THE OUTPUT SIDE OF EACH GENERATOR. PROVIDE AUXILIARY CONTACTS TO OVERRIDE THE THERMOSTATIC CONTROLS OF HOVERCRAFT UNIT-HEATERS SUCH THAT:
   7.1. WHEN GENERATOR OUTPUT DROPS TO 30% RATED LOAD, BYPASS CONTACTOR FOR UH-1 OVERRIDES THERMOSTAT AND UH-1 TURNS ON.
   7.2. IF GENERATOR OUTPUT DROPS TO 25% RATED LOAD, BYPASS CONTACTOR FOR UH-2 OVERRIDES THERMOSTAT AND UH-2 TURNS ON.
   7.3. WHEN THE GENERATOR OUTPUT INCREASES TO 40% OF RATED LOAD, THERMOSTAT FOR UH-2 SHALL CONTROL OPERATION OF UNIT HEATER.
   7.4. WHEN THE GENERATOR OUTPUT INCREASES TO 45% OF RATED LOAD, THERMOSTAT FOR UH-1 SHALL CONTROL UNIT HEATER.



3 TE4 ELECTRICAL PLAN – OPERATIONS BLDG
SCALE: 1/4" = 1'-0"

SHEET NO.	TOTAL SHEETS
TE4	59
STATE	YEAR
ALASKA	2010

PROJECT DESIGNATION: 59791
ADDENDUM NO.
ATTACHMENT NO.

REVISIONS

NO.	DATE	DESCRIPTION

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

NeCB TERMINAL ELECTRICAL PLAN

SHEET NO.	TOTAL SHEETS
TE5	59
STATE	YEAR
ALASKA	2010
PROJECT DESIGNATION	
59791	
ADDENDUM NO.	
ATTACHMENT NO.	

REVISIONS

NO.	DATE	DESCRIPTION

ELECTRICAL SPECIFICATIONS:

1. GENERAL
   - 1.1. All work shall conform to the latest edition of the National Electrical Code (NEC) and all state amendments.
   - 1.2. Obtain all permits and pay all fees required by this work.
   - 1.3. Maintain responsibility for the condition of all materials used. If lost, stolen, or damaged, materials shall be replaced at no extra cost to the Owner.
   - 1.4. Workmanship: All work shall be performed by workmen skilled in and regularly employed in the trade. Install all products in a neat and workmanlike manner, per manufacturer's instructions and in compliance with NECA 1-2006 "Standard Practice for Good Workmanship in Electrical Contracting" as a minimum. Comply with NFPA 70E safety rules as a minimum.
   - 1.5. Coordination installation and arrangement of components and equipment with other trades and install to facilitate access for future maintenance, repair, and replacement without interference to adjacent work. Provide final connections to mechanical and other equipment indicated on Drawings, unless noted otherwise.
   - 1.6. Upon project completion, clean all electrical equipment and fixtures and replace or repair any items scratched, dented, or otherwise disfigured.
   - 1.7. Remove all debris and surplus material for the premises as progress of the work dictates.
   - 1.8. Provide pipe, sheet metal, or fire stopping sleeves for penetration of fire-rated, concrete, or masonry assemblies, and for cable penetration of any assembly. Sleeves not required for core-drilled penetrations, or conduit penetrations of non-fire-rated assemblies. Seal penetrations and annular spaces as required with approved materials to preserve the fire, smoke, thermal, acoustic, and vapor barrier function of the assembly.

2. PRODUCTS AND SUBMITTALS
   - 2.1. Submit (6) copies of product data, certificates, and shop drawings to the Engineer. Provide submittals for panelboards, wiring devices, light fixtures, conductors, equipment, motor starters, and control panels and devices.
   - 2.2. All products shall be new, and listed or labeled by a Nationally Recognized Testing Laboratory (NRTL) per NEC Article 100 for the intended use. Match existing where a uniform installation exists, unless otherwise approved. Provide similar items from same manufacturer throughout project. Substitutes for specified items shall not be furnished without written approval.

3. DEMOLITION
   - 3.1. Remove all electrical work at the previous Hovercraft enclosure site. Accessible circuits & raceway shall be removed back to source or terminal equipment. Inaccessible (buried or concealed) circuits may be abandoned in place, after exposed portion is cut back and removed 2 inches below grade or surface of adjacent construction.
   - 3.2. Cap and patch surfaces after demolition to match undamaged final finish.
   - 3.3. Salvage and removal: Owner reserves right of first refusal for salvageable materials and equipment scheduled for demolition. Items selected by owner shall be moved to a storage area on-site designated by the Owner; unwanted materials and debris shall be removed from the project site.
   - 3.4. Relocated equipment: remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.
   - 3.5. After work is completed, furnish updated panel schedules and fill in blank openings where breakers missing or removed.

4. SITE WORK & UTILITIES
   - 4.1. Perform all excavation and backfill necessary for a complete installation in coordination with other trades.

5. ELECTRICAL SERVICE AND DISTRIBUTION
   - 5.1. Furnish and install new 120/240V panelboards in the Hovercraft enclosure and in the Operations building as shown on plans. The panelboard shall have minimum of 20-circuits protected by circuit breakers, bolt-in design and 20-amp minimum breaker size.
   - 5.2. Panelboards shall have copper bussing and include neutral and equipment ground buses. Ground buses shall be bonded to the equipment enclosure.
   - 5.3. Panelboards shall be designed for surface mounting and shall have a front trim with lockable door. All panels shall be keyed alike.
   - 5.4. Mount panelboard on unistruts in the Hovercraft enclosure, and on the wall in Operations building.
   - 5.5. Overcurrent protective devices shall be circuit breaker type, bolt-in design. Circuit breakers shall be molded case, thermal-magnetic design. Install ground-fault circuit interrupter (GFCI), and shunt trip circuit breakers where indicated on the drawings and required by code.
   - 5.6. Disconnect switches shall be heavy-duty type, fused or non-fused as indicated on the drawings.
   - 5.7. Magnetic-type motor starters shall be combination units incorporating a non-fused disconnect.
   - 5.8. Provide motor starters with thermal or electronic overload elements sized based on the full load current of the installed equipment.

6. GENERATORS, TRANSFER SWITCH AND PRE-FABRICATED ENCLOSURE
   - 6.1. Relocate the existing generators to the new site as shown on plans. Relocate all appurtenances such as control panels, fuel system, filters, lubrication system, coolant system and coolant jacket heaters, governors, silencers, starting system, indicating and protective devices and controls, supporting items, etc.
   - 6.2. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.
   - 6.3. Provide illuminated push-buttons for remote START and STOP of each generator. Provide auxiliary relays and controls as required to start and stop each generator remotely. Label each pushbutton to indicate the generator associated with it.
     - 6.3.1. START pushbutton shall be GREEN
     - 6.3.2. STOP pushbutton shall be RED
   - 6.4. Common Remote Audible Alarm: Comply with NFPA 110 requirements for Level 1 systems. Include necessary contacts and terminals in control and monitoring panel for each generator:
     - 6.4.1. Overcrank shutdown.
     - 6.4.2. Coolant low-temperature alarm.
     - 6.4.3. Battery-charger malfunction alarm.
     - 6.4.4. Battery low-voltage alarm
   - 6.5. Remote Alarm Annunciator: Comply with NFPA 99. An LED labeled with proper alarm conditions shall identify each alarm event and a common audible signal shall sound for each alarm condition. Silencing switch in face of panel shall silence signal without altering visual indication. Connect so that after an alarm is silenced, clearing of initiating condition will reactivate alarm until silencing switch is reset. Cabinet and faceplate are surface- or flush-mounting type to suit mounting conditions indicated.
   - 6.6. Install Schedule 40, black steel piping with welded joints and connect to engine muffler. Install thimble at wall. Piping shall be same diameter as muffler outlet.
     - 6.6.1. Install condensate drain piping to muffler drain outlet full size of drain connection with a shutoff valve, stainless-steel flexible connector, and Schedule 40, black steel pipe with welded joints.
   - 6.7. Maintain free working space around the air-intake filters.
   - 6.8. Provide engine cooling airflow through enclosure: Maintain temperature rise of system components within required limits when unit operates at 110 percent of rated load for 2 hours with ambient temperature at top of range specified in system service conditions.
     - 6.8.1. Louvers: Fixed-engine, cooling-air inlet and discharge. Storm-proof and drainable louvers prevent entry of rain and snow.
     - 6.8.2. Automatic Dampers: At engine cooling-air inlet and discharge. Dampers shall be closed to reduce enclosure heat loss in cold weather when unit is not operating.
   - 6.9. Connect fuel, cooling-system, and exhaust-system piping adjacent to packaged engine generator to allow service and maintenance.
   - 6.10. Connect engine exhaust pipe to engine with flexible connector.
   - 6.11. Connect fuel piping to engines with a gate valve and union and flexible connector.
   - 6.12. VIBRATION ISOLATION DEVICES:
     - 6.12.1. Restrained Spring Isolators: Freestanding, steel, open-spring isolators with seismic restraint.
       - 6.12.1.1. Housing: Steel with resilient vertical-limit stops to prevent spring extension due to wind loads or if weight is removed; factory-drilled baseplate bonded to 1/4-inch- (6-mm-) thick, elastomeric isolator pad attached to baseplate underside; and adjustable equipment mounting and leveling bolt that acts as blocking during installation.
       - 6.12.1.2. Outside Spring Diameter: Not less than 80 percent of compressed height of the spring at rated load.
       - 6.12.1.3. Minimum Additional Travel: 50 percent of required deflection at rated load.
       - 6.12.1.4. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
       - 6.12.1.5. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
   - 6.13. Weather Hoods: Fabricated to make 90 degree downward bend, with opening facing the ground and located minimum of 12 inches below the bottom of the wall opening but not less than 24" above grade. Hoods shall be rigid fiberglass or 18-gage galvanized sheet metal. Hoods shall be removable and fastened to the shelter wall with multiple fasteners as required for rigidity, and sealed to prevent water penetration. Fabricate hoods to offset from shelter wall a minimum of 6 inches, resulting in an overall projection off the wall of approximately 18 inches. Weather hoods shall be shop fit-up prior to removal for shipment. Provide weather hoods with one (1) inch grid bird screens, to be easily removable.
     - 6.13.1. Vendor to provide wall openings with weather hoods as recommended by engine generator set manufacturer. Wall openings shall match damper frame size, and be located as high as possible at location recommended by engine generator set manufacturer.
   - 6.14. Dampers: Ultra-low leakage type. Provide damper sized per engine generator set manufacturer. Dampers shall be tied with generator controls, such that operation of generator will activate dampers to open up louvers.
   - 6.15. Accessories: Provide the following for enclosure:
     - 6.15.1. Through-wall weather heads, generator stack thimble, supports and sealants
     - 6.15.2. Ventilation fan operator by thermostat control.
     - 6.15.3. Fuel tank vents to exterior of the building to meet the requirements of the IFC and NFPA.
   - 6.16. Relocate existing 400-amp manual transfer switch and all associated appurtenances. Mount transfer switch on unistruts.

7. RACEWAYS AND BOXES
   - 7.1. Conduit types shall be:
     - 7.1.1. Underground, Exterior exposed, & Interior exposed below 5'AFF: RMC
     - 7.1.2. Interior exposed above 5'AFF: EMT
   - 7.2. Connections to equipment requiring flexibility or subject to vibration shall be:
     - 7.2.1. Interior, dry locations: FMC or LFMC.
     - 7.2.2. Exterior or Interior, damp or wet locations: LFMC
   - 7.3. Minimum conduit size shall be 3/4".
   - 7.4. Conduit fittings shall be galvanized steel and have nylon insulated throats.
   - 7.5. Conduit fittings for RMC and IMC shall be threaded type.
   - 7.6. Conduits passing from heated to cold spaces shall be thermally sealed to prevent air and moisture transfer. Conduit shall be sealed with removable duct sealant at an accessible location.
   - 7.7. Conduit shall be cut square and ends reamed to remove burrs. Maximum conduit bend is 90 degrees, with not more than three 90 bends or equivalent between pull points. Plug unused openings, and provide pullwire in spare conduits. Provide ¼ inch minimum standoff clearance for conduits mounted on walls and structural surfaces.
   - 7.8. Junction and device boxes shall be suitable for use at the installed location and arranged to accept the intended device or equipment. Junction and device boxes shall be:
     - 7.8.1. Exterior: Galvanized cast iron or cast aluminum with threaded conduit hubs and gasketed weatherproof covers.
     - 7.8.2. Interior exposed below 5'AFF: Galvanized cast iron or cast aluminum with threaded conduit hubs.
     - 7.8.3. Interior exposed above 5'AFF: Galvanized sheet steel.
   - 7.9. The entire conduit system shall be mechanically and electrically continuous from the source to all devices and grounded in accordance with the NEC.
   - 7.10. Equipment grounding: Provide a separate green insulated equipment grounding conductor run with all power and control circuits, sized per NEC and bonded to raceways, cabletrays, and enclosures. Increase grounding conductor & conduit size proportionally as required where power conductors are oversized for voltage drop.
   - 7.11. Outside boxes shall have weatherproof enclosures while-in-use covers.

8. CONDUCTORS AND CABLES
   - 8.1. Conductors shall be copper, solid for 10awg and smaller, stranded for 8awg and larger. Insulation shall be:
     - 8.1.1. Exterior or Interior (unheated): XHHW.
     - 8.1.2. Interior, heated: THHN-THWN or XHHW.
   - 8.2. Minimum conductor sizes shall be 12awg for power. Circuit conductors shall be increased in size for voltage drop based on the circuit length, 12awg up to 100', 10awg up to 200', 8awg over 200'.
   - 8.3. Connectors and splices shall be factory-fabricated, with the ampacity, rating, type, and material appropriate for the application. Push-in spring-type connectors are not acceptable.
   - 8.4. All splices and connections located underground or in grade-level junction boxes shall be made with underground splice kits and sealed watertight.

9. WIRING DEVICES
   - 9.1. Receptacles shall be heavy-duty grade, 20amp, duplex grounding type receptacles. Receptacles shall be weather resistant where required by code.
   - 9.2. Ground-fault circuit interrupter (GFCI) receptacles shall be heavy-duty grade, 20amp, non-feed-through, duplex receptacles with Class A trip, test and reset buttons, and a protection indicator light. GFCI receptacles shall be weather resistant where required by code.
   - 9.3. Switches shall be heavy-duty grade, 20amp, single pole, three-way, four-way, key-operated, and pilot-light as indicated on the drawings.
   - 9.4. Wiring devices shall be ivory.
   - 9.5. Wall plates shall be:
     - 9.5.1. Satin-finish stainless steel.
     - 9.5.2. Damp locations: Die-cast aluminum cover with spring-loaded door(s).
     - 9.5.3. Wet locations: Die-cast aluminum cover rated weatherproof while in use.

10. LIGHTING
   - 10.1. Light fixtures shall be as shown and scheduled on the drawings or an approved equal.
   - 10.2. Light fixtures shall be provided and installed complete with lamps, ballasts, and mounting hardware. Fluorescent fixtures with linear lamps shall have a disconnecting means at each luminaire in accordance with the NEC.
   - 10.3. Fluorescent ballasts shall be electronic, instant-start, Class A sound rated, have a minimum ballast factor of 0.88 and a maximum total harmonic distortion (THD) of 10%.
   - 10.4. HID ballasts shall be constant wattage autotransformer or regulating high power factor type with a minimum starting temperature of -20 deg F.
   - 10.5. Exit signs shall be LED type, with integral nickel-cadmium batteries, charging and transfer electronics, test pushbutton, and charge indicator light.
   - 10.6. Emergency lights shall include sealed lead-acid batteries, charging and transfer electronics, test pushbutton, and charge indicator light.
   - 10.7. Linear fluorescent lamps shall be T8, 3500°K, 75 CRI minimum, with a minimum rated life of 20,000 hours.
   - 10.8. HID lamps shall be 4000K, 65 CRI minimum, with a minimum rated life of 12,000 hours.
   - 10.9. Provide light fixtures and light poles capable of withstanding the effects of gravity loads and wind loads based on wind speed of 120mph (3 second gust).

11. IDENTIFICATION
   - 11.1. Install underground warning tape 6-8" below grade over all underground cables and conduits. Warning tape shall be bright-colored, vinyl tape with permanent continuous-printed legend. Tape shall be red for "ELECTRIC".
   - 11.2. Color code secondary phase conductors for feeders and branch circuits. Coloring shall be factory applied for small conductors. Phase conductors 8awg and larger and neutral and ground conductors 4awg and larger may be field applied using colored pressure-sensitive plastic tape. Conductors shall be colored:
     Phase A: Black,
     Phase B: Red,
     Neutral: White,
     Ground: Green
   - 11.3. Power circuits shall be identified in junction & device boxes, and panelboards with the panel and circuit number. Identification shall be by pre-printed wraparound heat-shrink labels or plastic tags with permanent printing or marker, secured to cables.
   - 11.4. Equipment labels shall be engraved plastic laminate, white lettering on a black field. Text shall be 1/2" high on a 1-1/2" high label. Labels with two lines of text shall use a 2" high label. Equipment labels shall be placed on panelboards, starters and disconnects
   - 11.5. Device covers shall be labeled with the panel and circuit number. Labels shall be machine-printed, pressure-sensitive adhesive labels, black lettering on a white background.
   - 11.6. Install labels on each panelboard reading: "WARNING - POTENTIAL ARC FLASH HAZARD EXISTS WHILE WORKING ON THIS ENERGIZED EQUIPMENT."
   - 11.7. Provide typewritten circuit directories under plastic in frames for each new and modified panelboard. Handwritten directories or changes to existing directories are not acceptable.

12. PROJECT COMPLETION / TESTING & ACCEPTANCE
   - 12.1. Upon project completion, clean all electrical equipment and fixtures and replace or repair any items scratched, dented, or otherwise disfigured.
   - 12.2. Test all systems to assure proper operation; test modified portions of existing systems unless otherwise directed. Feeders shall be megger-tested for insulation resistance; test all circuits for continuity and shorts. Notify Owner of test schedule and provide written test reports. Identify changes made for failed items to obtain acceptable results.
   - 12.3. Commission electrical systems in accordance with NECA 90-2004 guidelines. During final inspection, demonstrate the entire installation to operate satisfactorily. Repair or replace failed items. Repair all construction damage.
   - 12.4. System Integrity Tests: Methodically verify proper installation, connection, and integrity of each element of each engine-generator system before and during system operation. Check for air, exhaust, and fluid leaks.
   - 12.5. Exhaust-System Back-Pressure Test: Use a manometer with a scale exceeding 40-inch wg (120 kPa). Connect to exhaust line close to engine exhaust manifold. Verify that back pressure at full-rated load is within manufacturer's written allowable limits for each engine generator.
   - 12.6. Maintain as-built red-lined record drawing set as project progresses, and deliver these drawings to Owner after final inspection and acceptance.
   - 12.7. Load balancing: After commissioning, measure load balance at the service and at each panel during period of normal load operation. Provide circuit changes as required to achieve balance within 20% between phases at the new panels.

STATE OF ALASKA 49TH
AASHISH SHAHANI
EE-12343
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

KING COVE ACCESS ROAD COMPLETION

ELECTRICAL SPECIFICATIONS