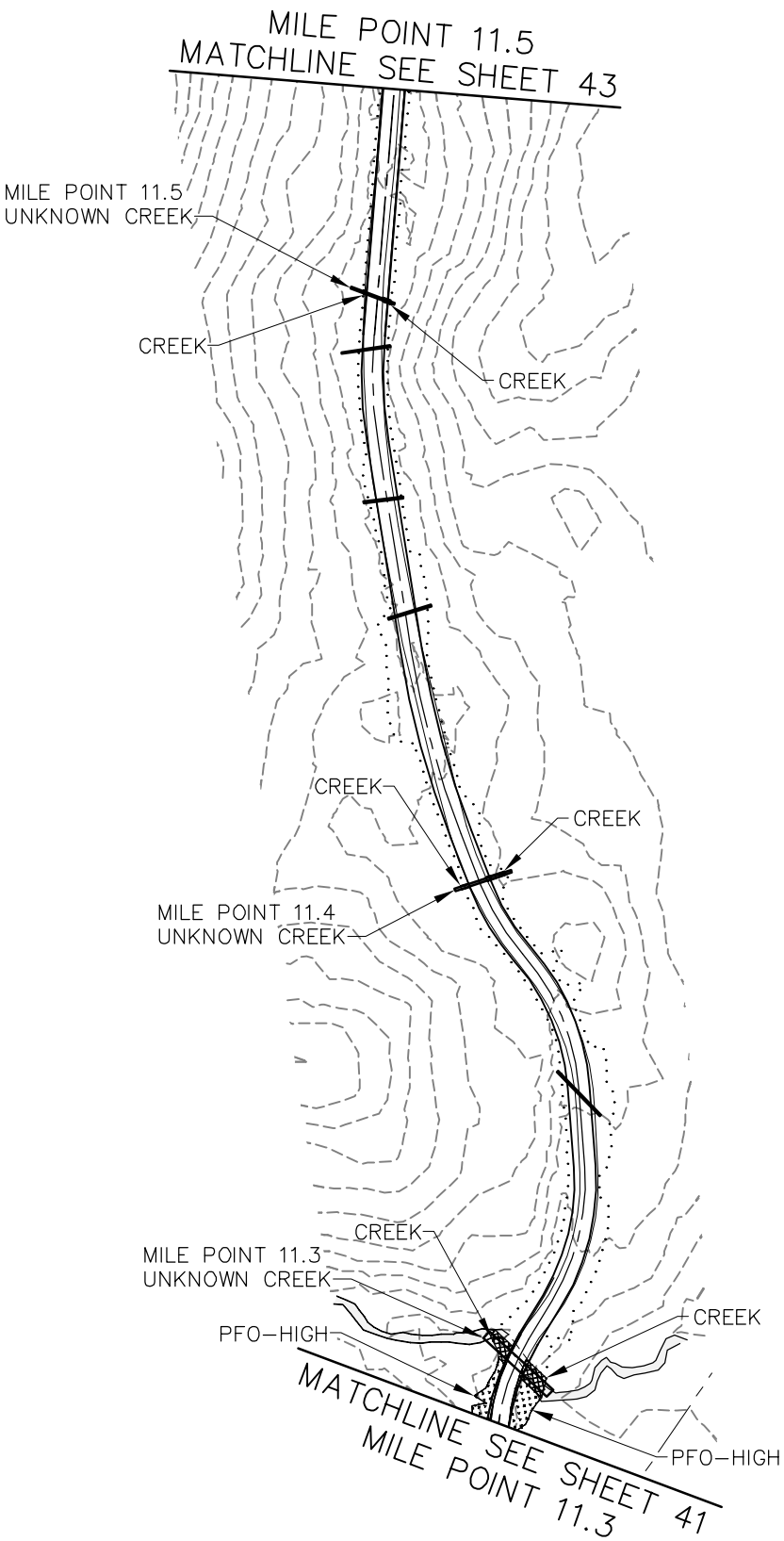
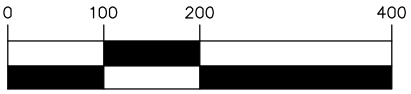
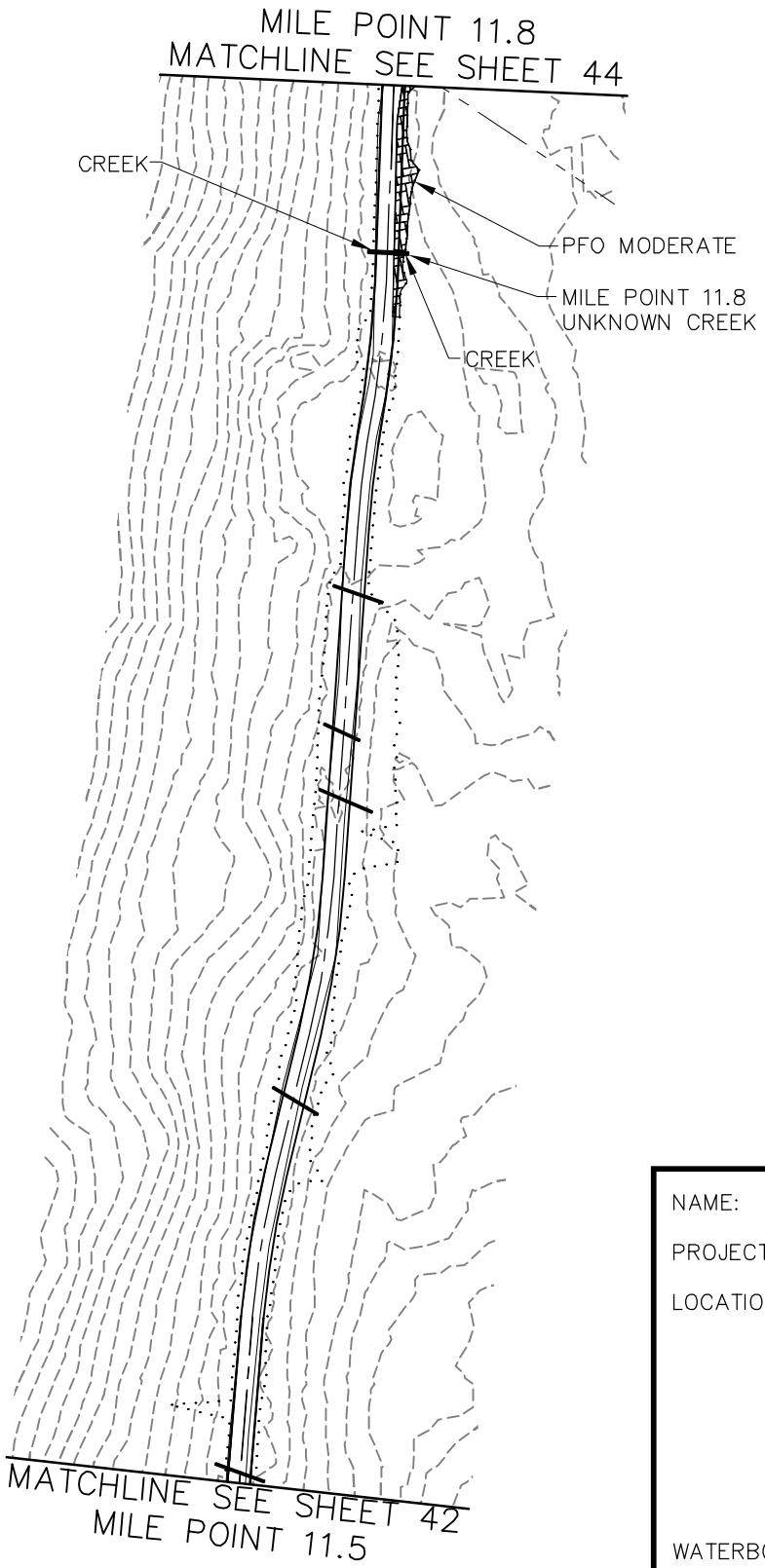


GRAPHIC SCALE



(IN FEET)
1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	42 OF 64



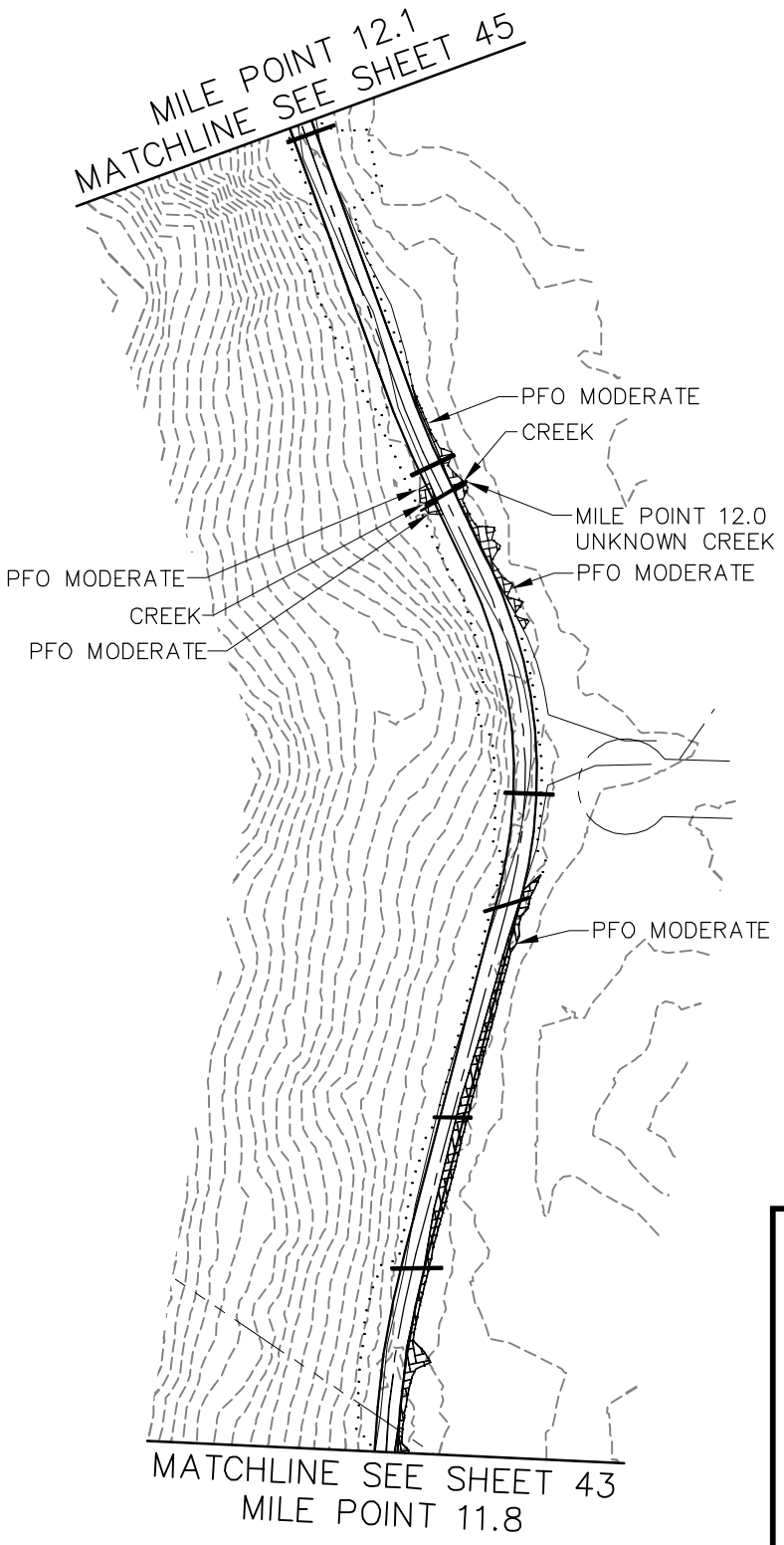
GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	43 OF 64



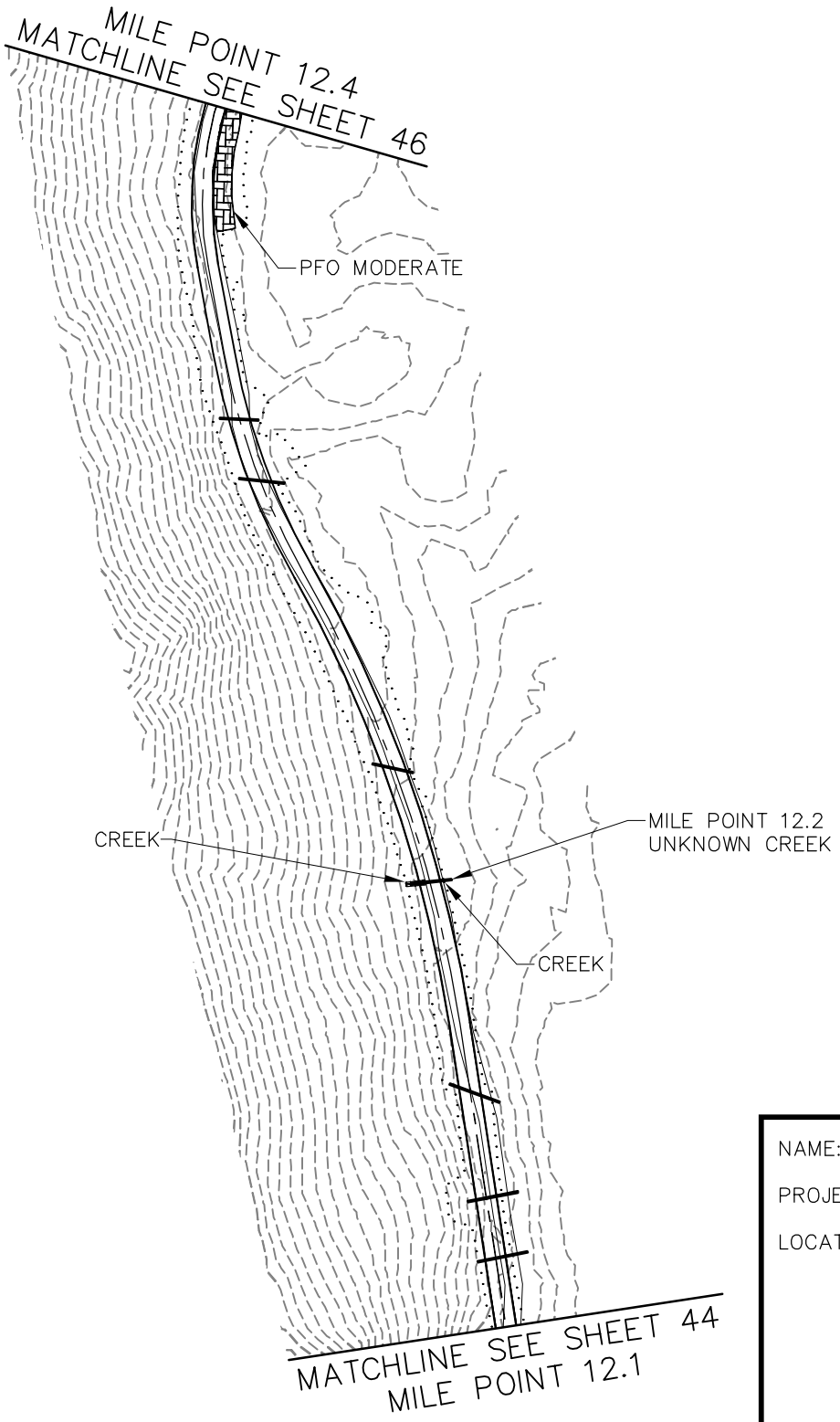
GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	44 OF 64



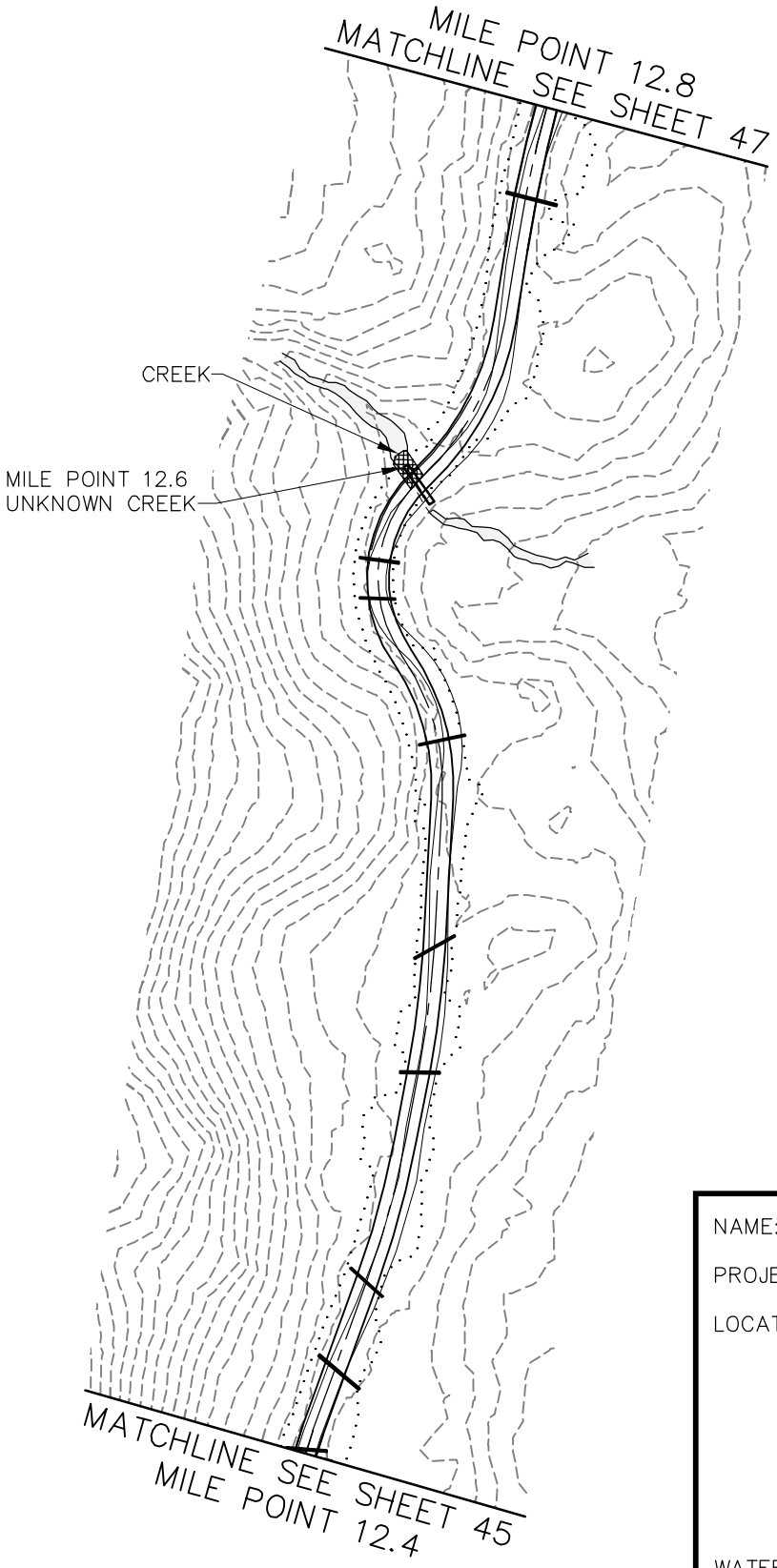
GRAPHIC SCALE

0 100 200 400

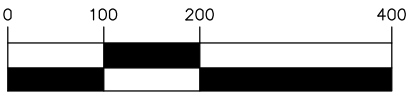
(IN FEET)

1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	45 OF 64

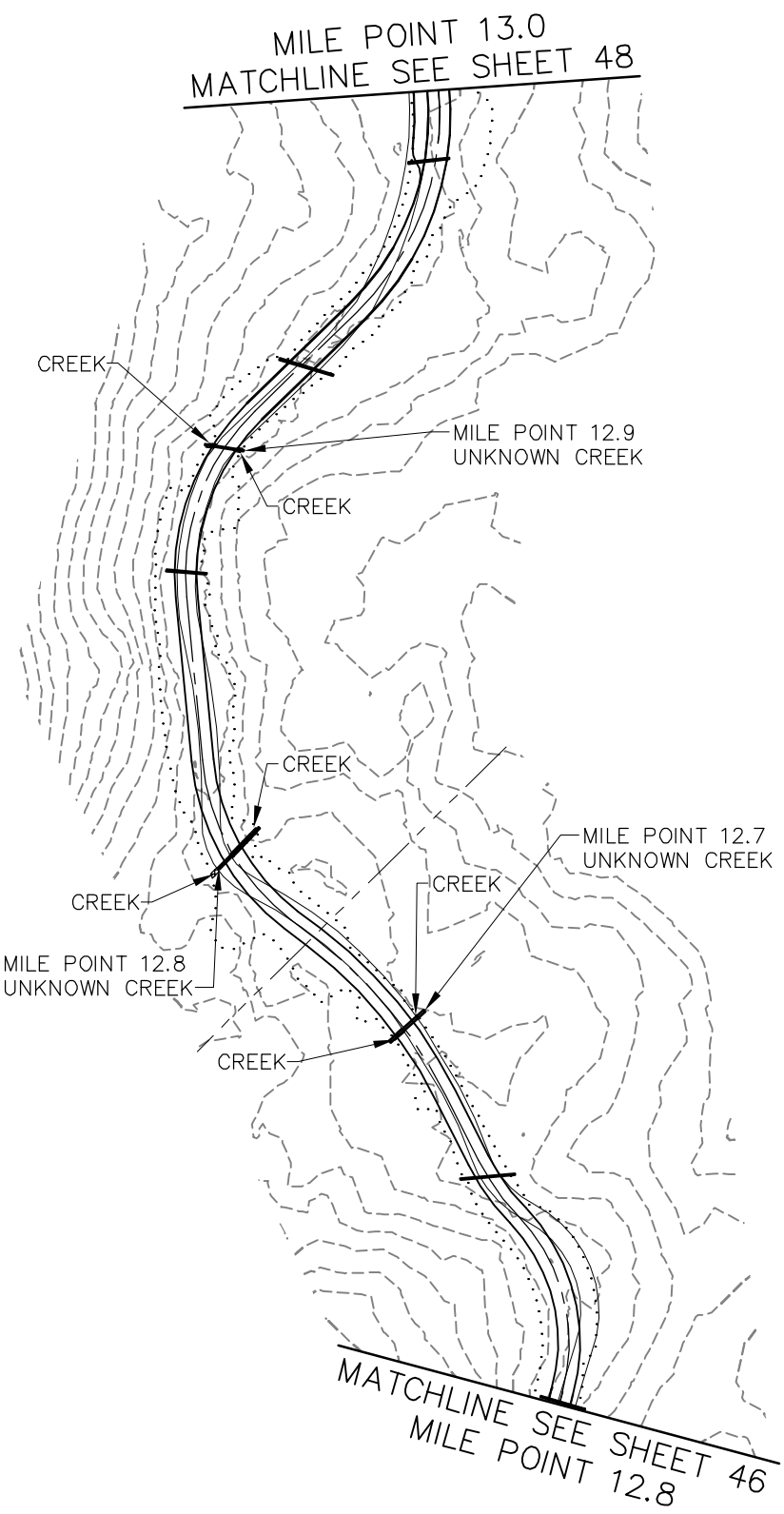


GRAPHIC SCALE



(IN FEET)
1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	46 OF 64

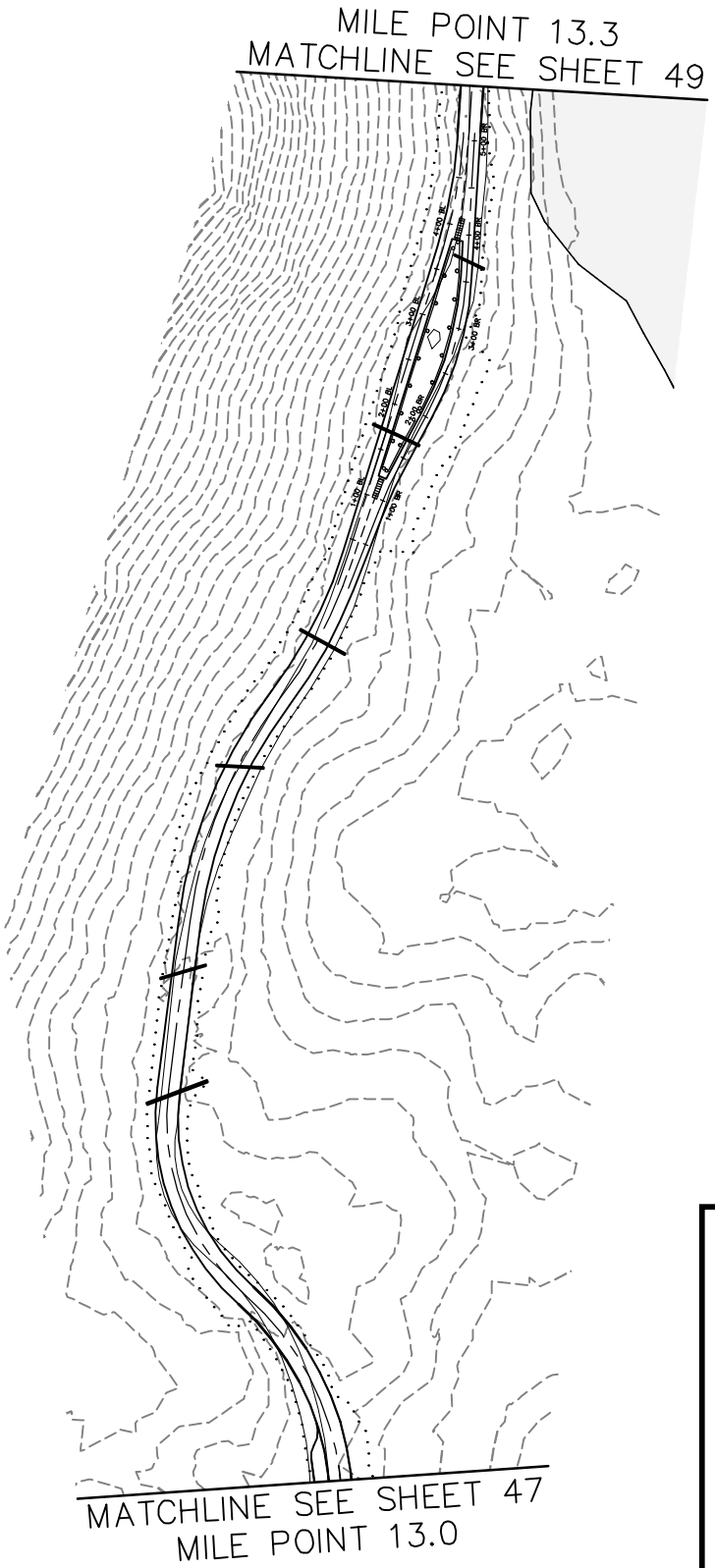


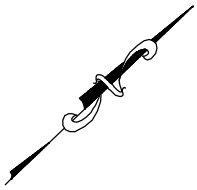
GRAPHIC SCALE

0 100 200 400

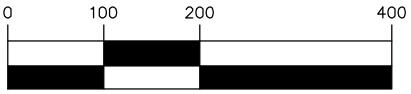
(IN FEET)
1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	47 OF 64





GRAPHIC SCALE



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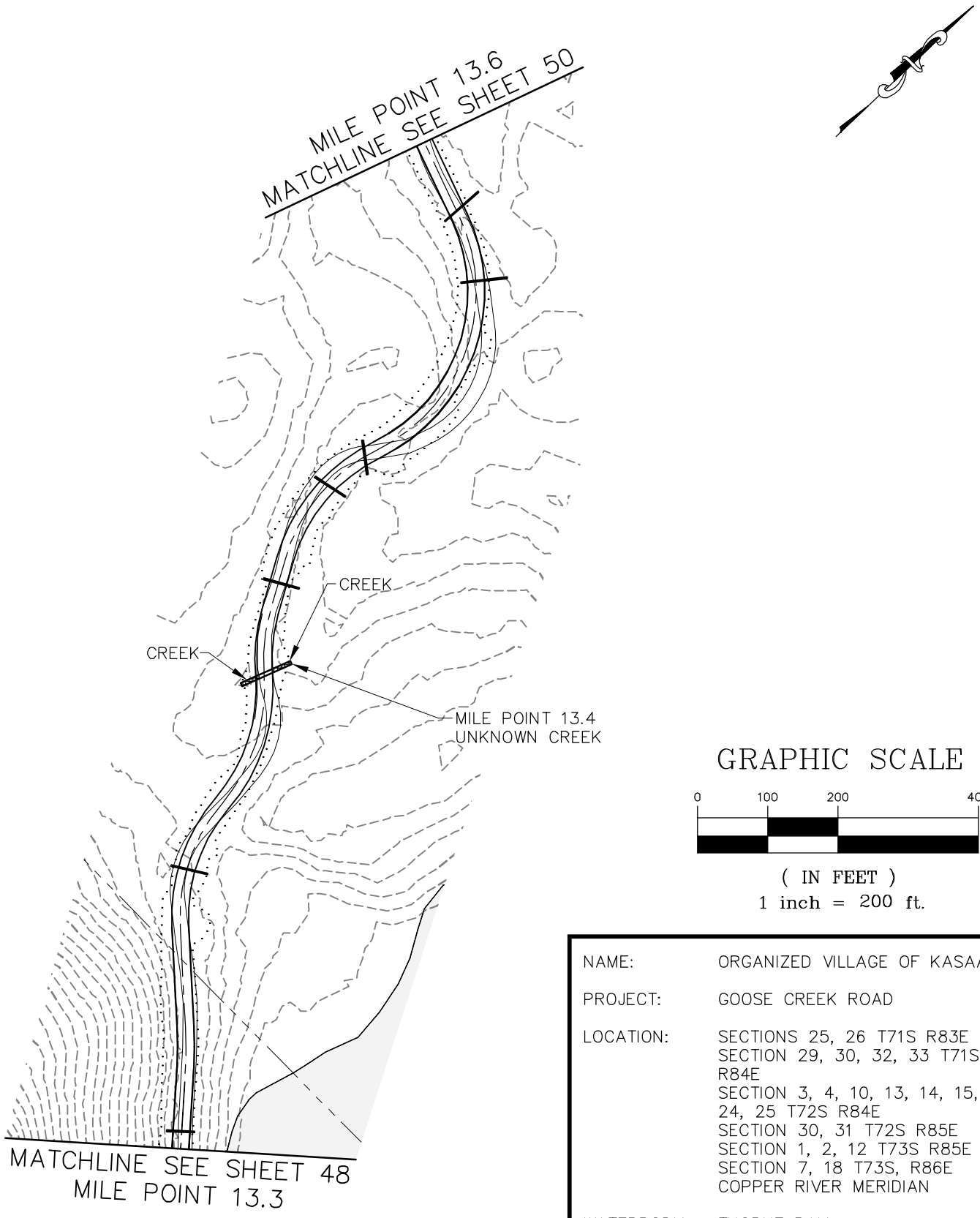
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	48 OF 64

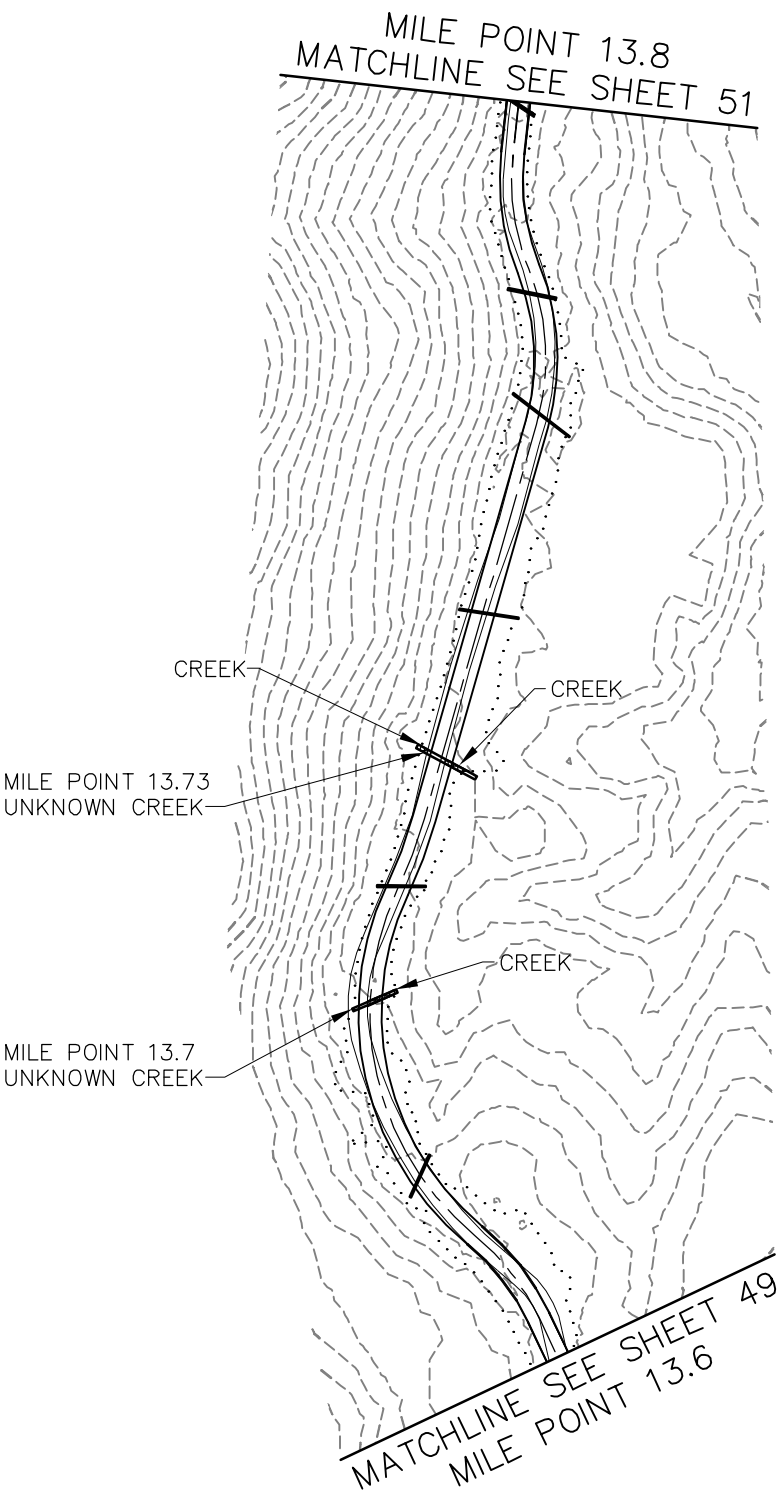


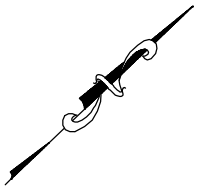
GRAPHIC SCALE

0 100 200 400

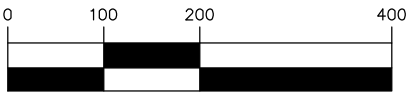
(IN FEET)
1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	49 OF 64



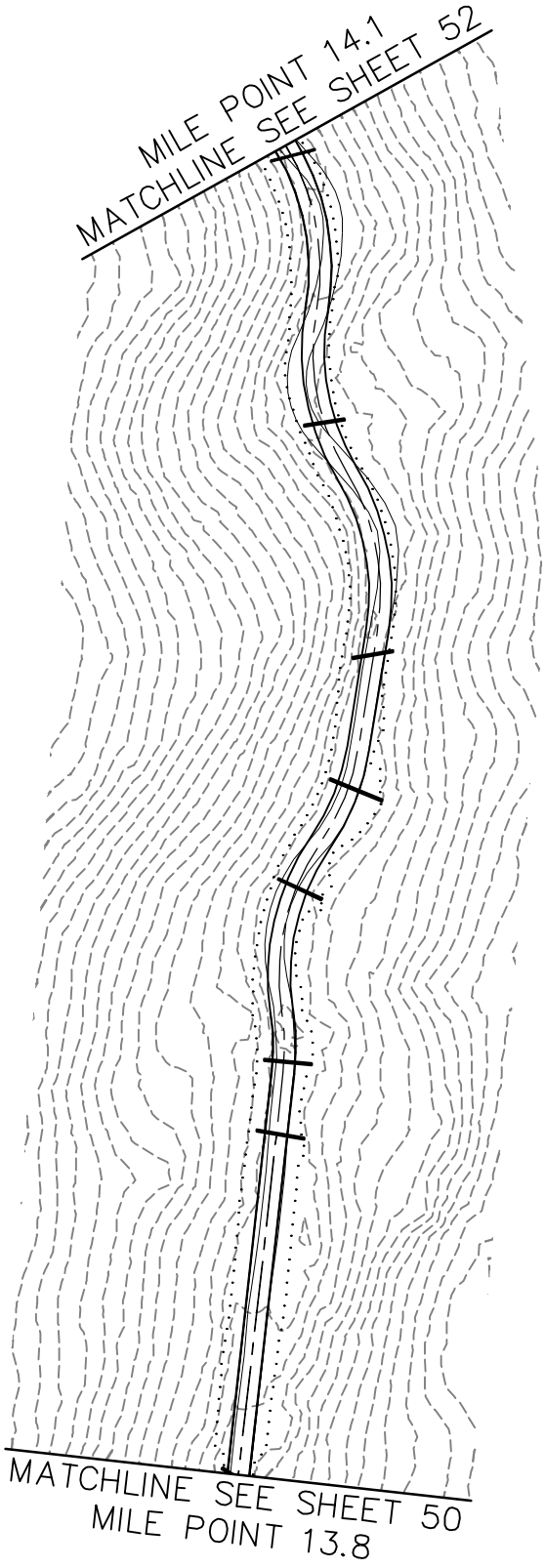


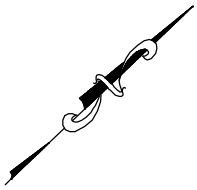
GRAPHIC SCALE



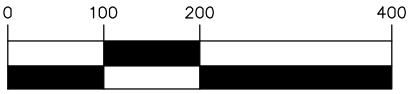
(IN FEET)
1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	50 OF 64





GRAPHIC SCALE



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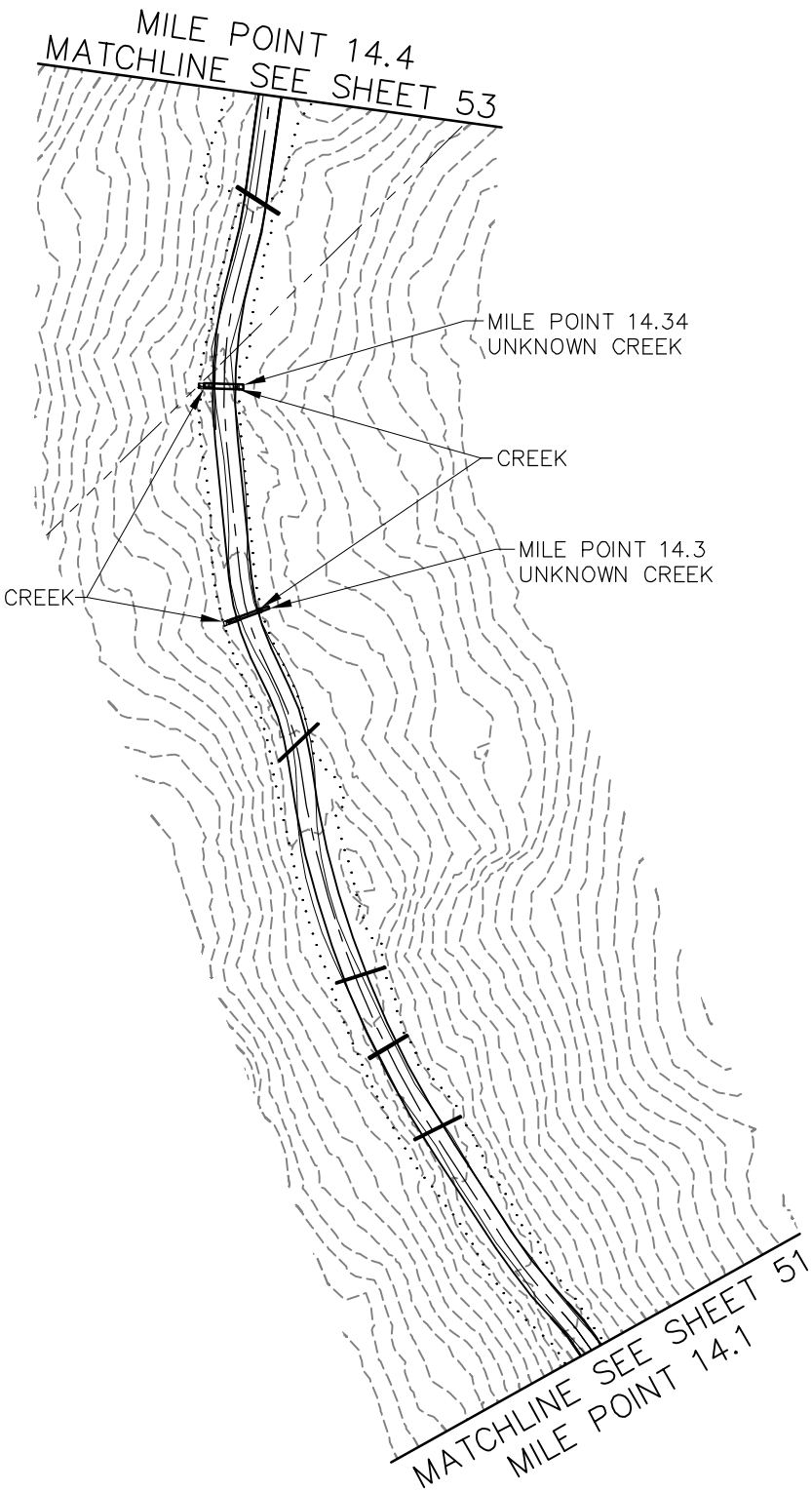
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	51 OF 64

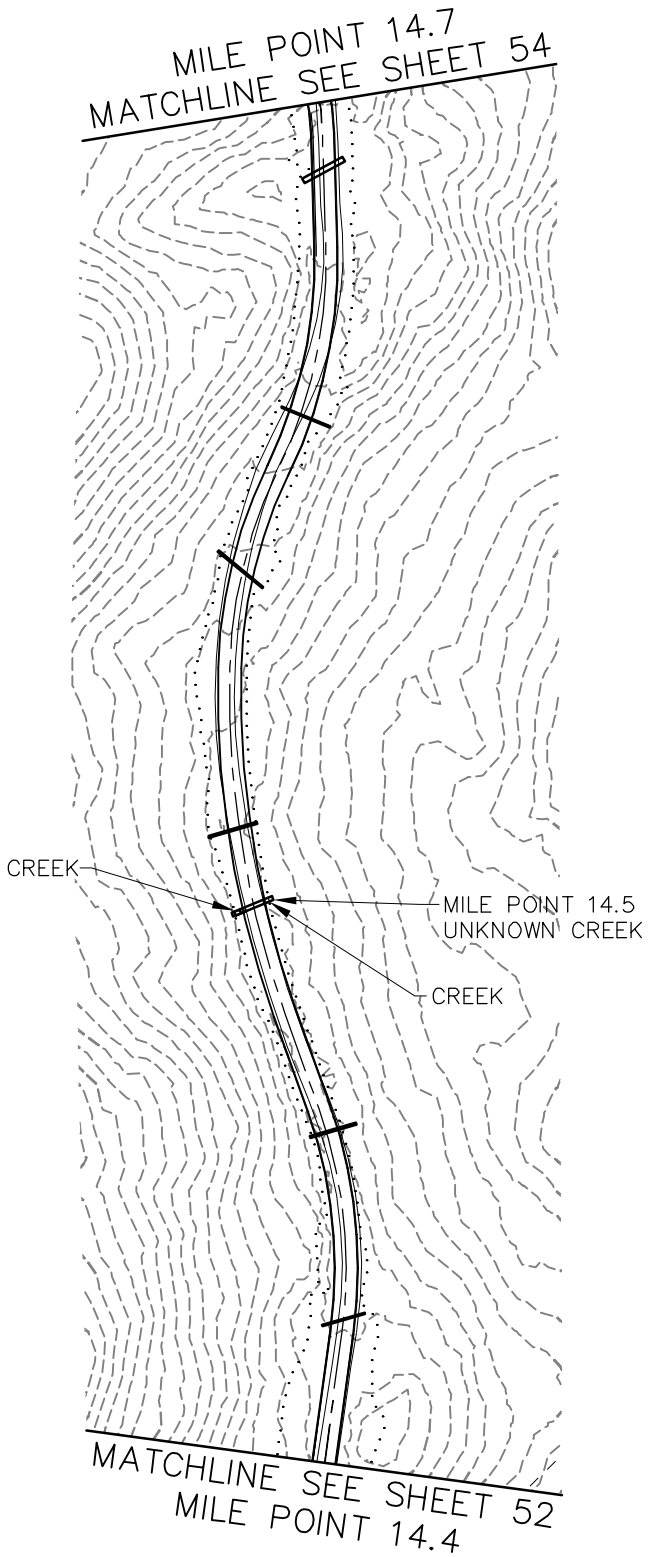


GRAPHIC SCALE

0 100 200 400

(IN FEET)
1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	52 OF 64



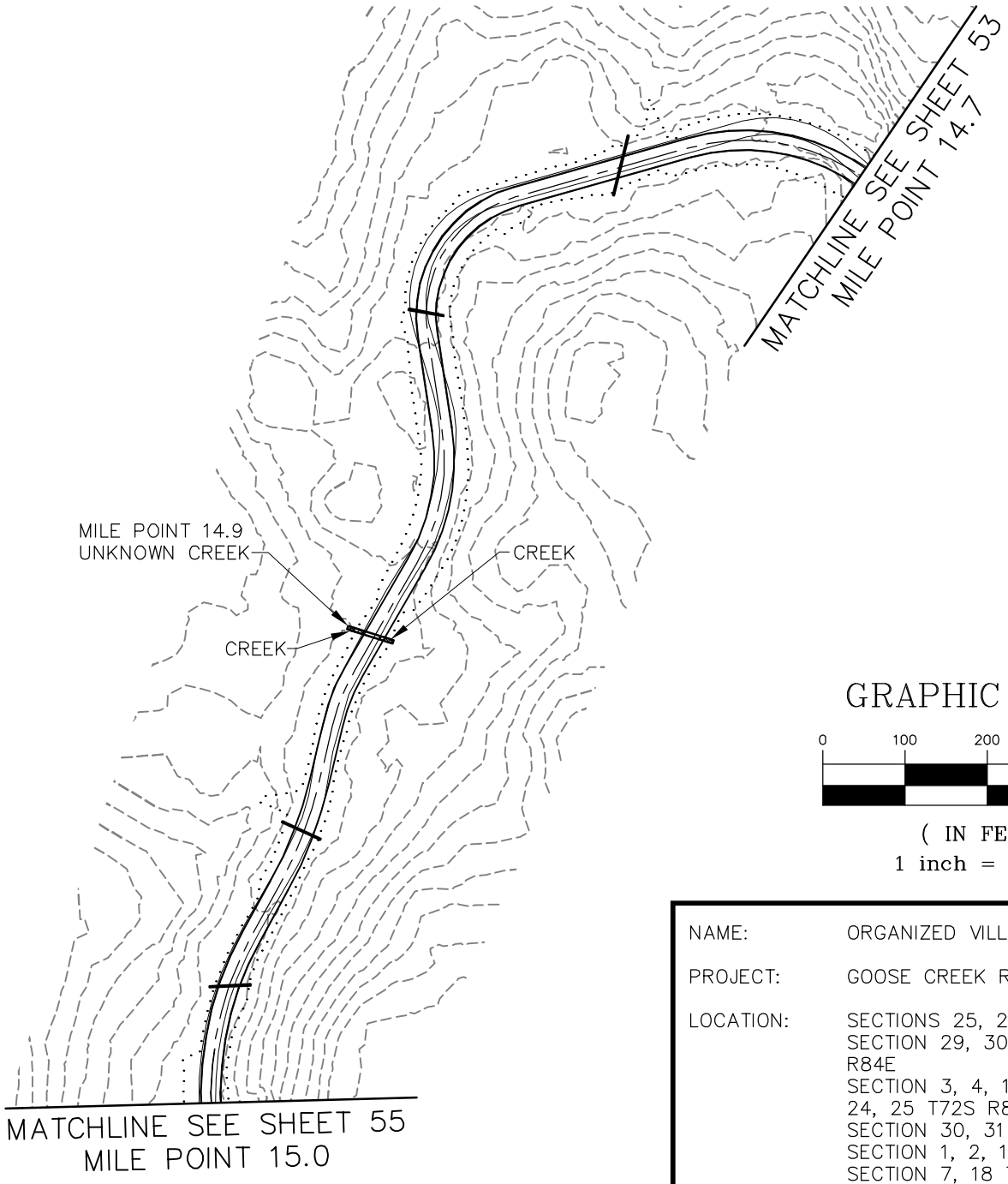
GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	53 OF 64



GRAPHIC SCALE

0 100 200 400

(IN FEET)

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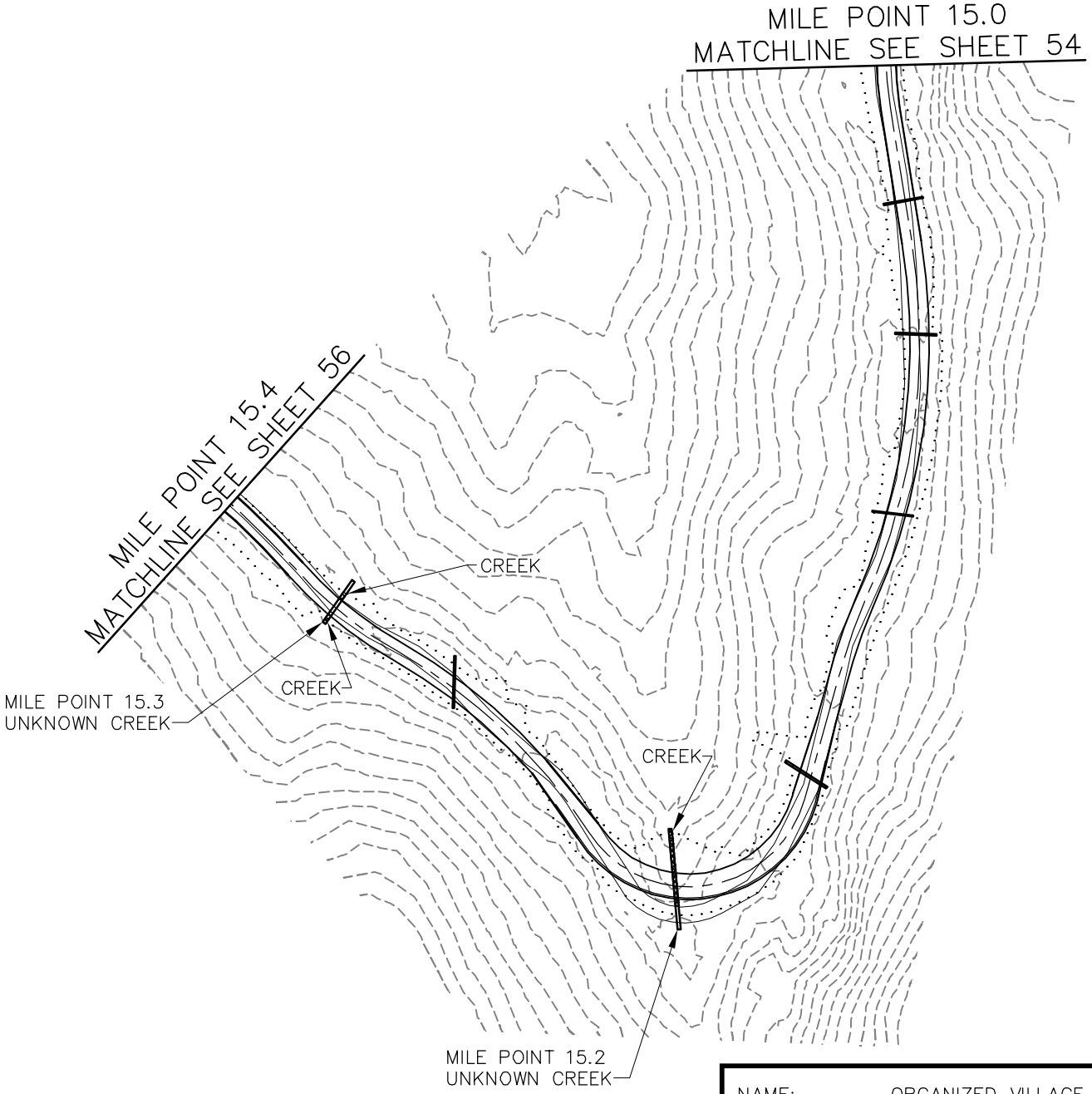
NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	54 OF 64



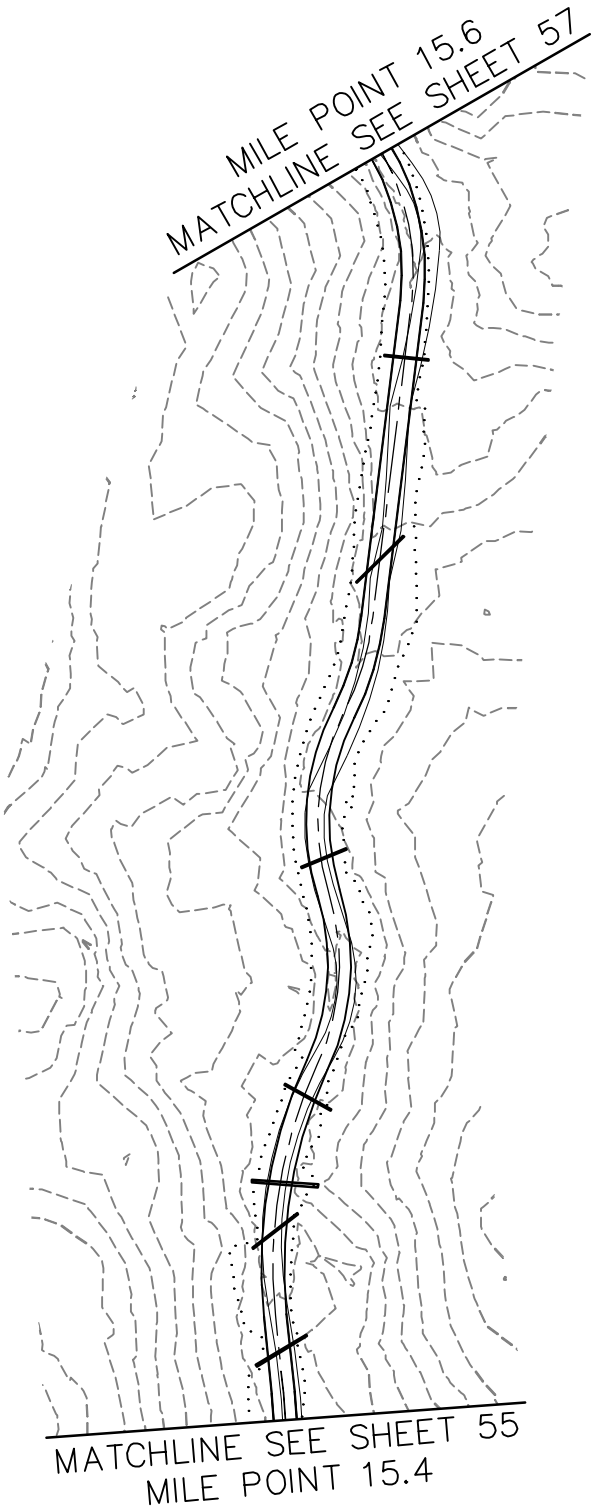
GRAPHIC SCALE

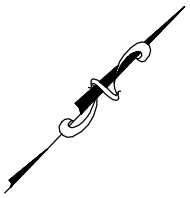
0 100 200 400

(IN FEET)

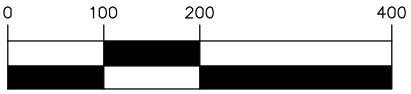
1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	55 OF 64





GRAPHIC SCALE



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1 inch = 200 ft.

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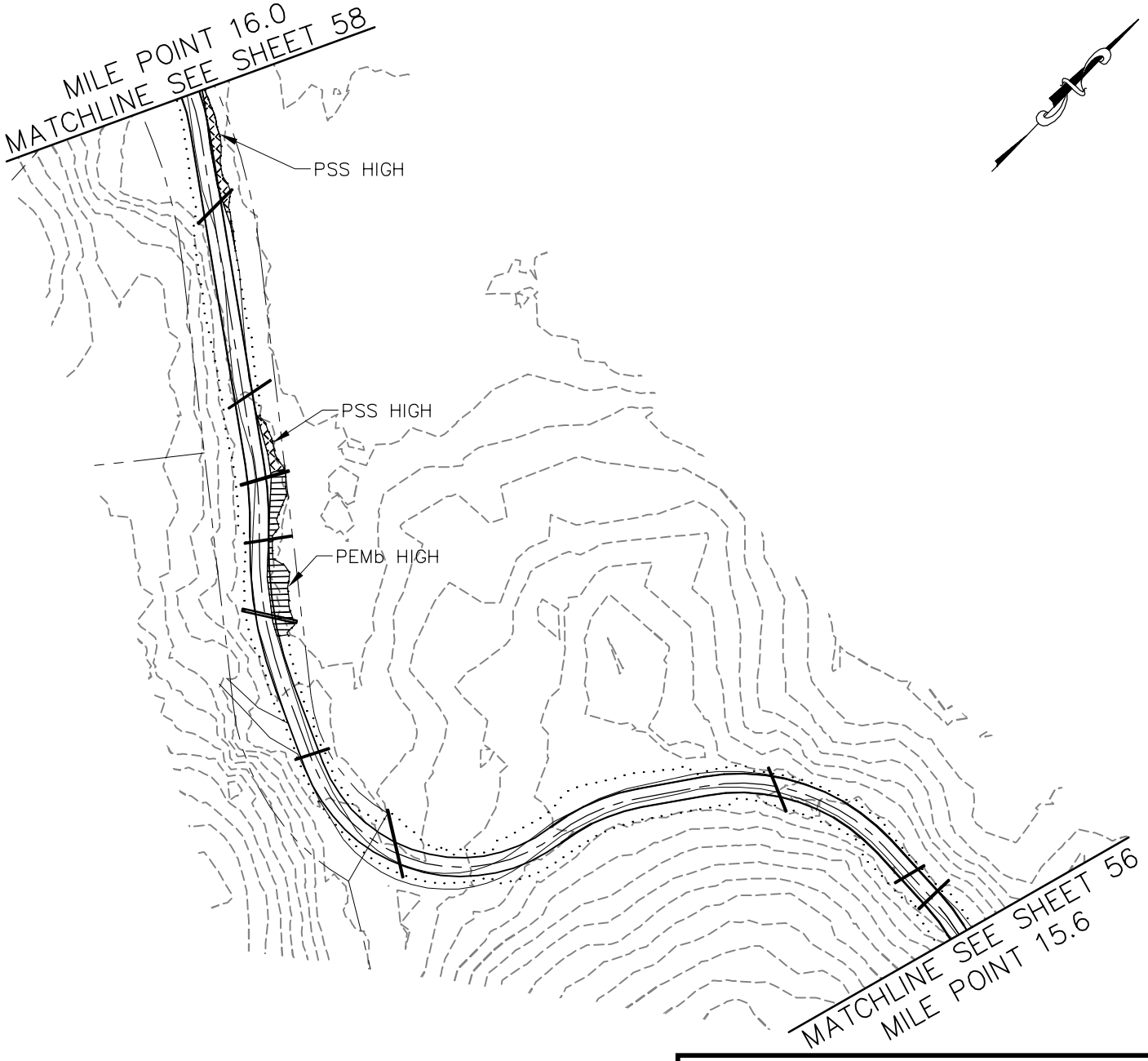
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	56 OF 64



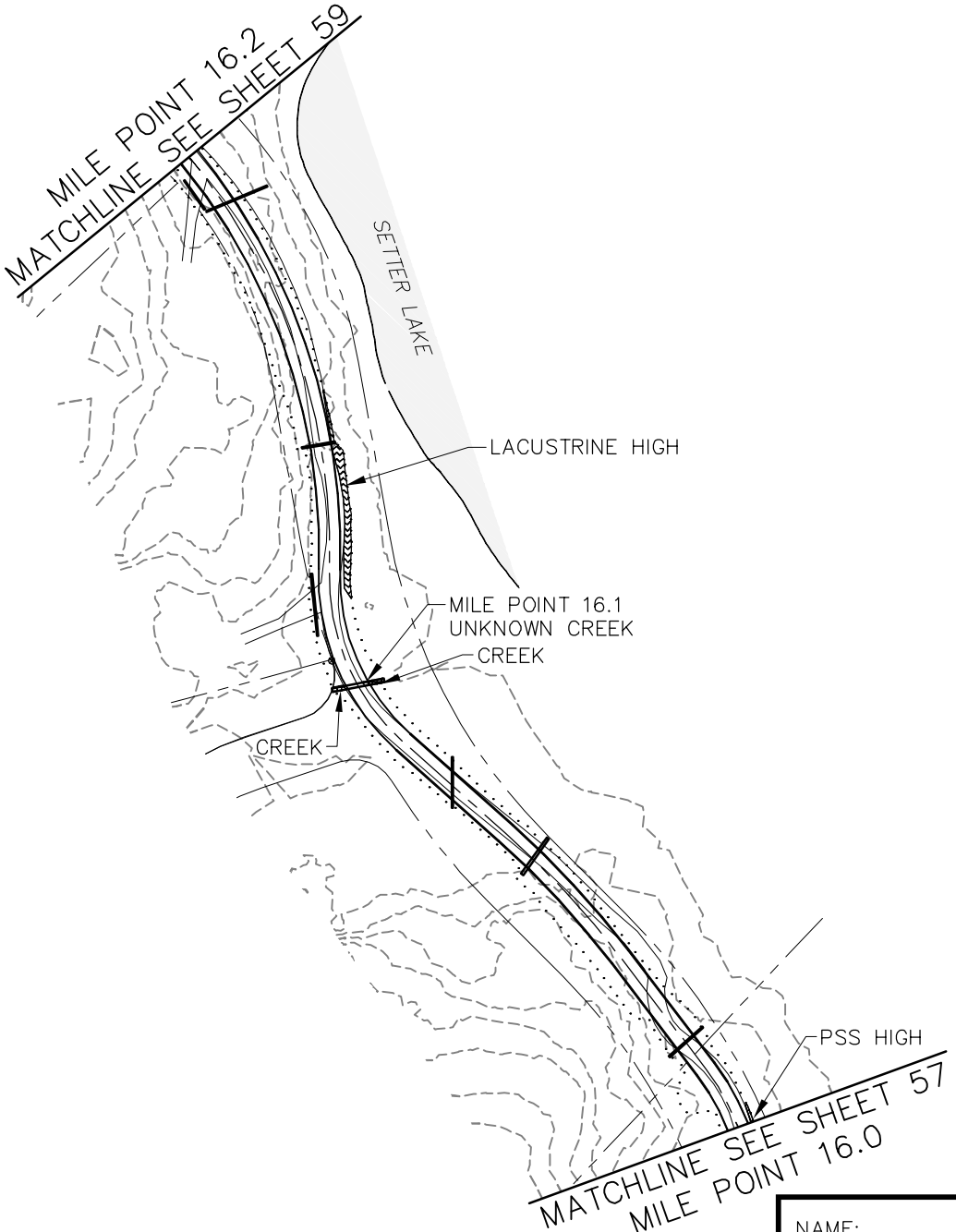
GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	57 OF 64



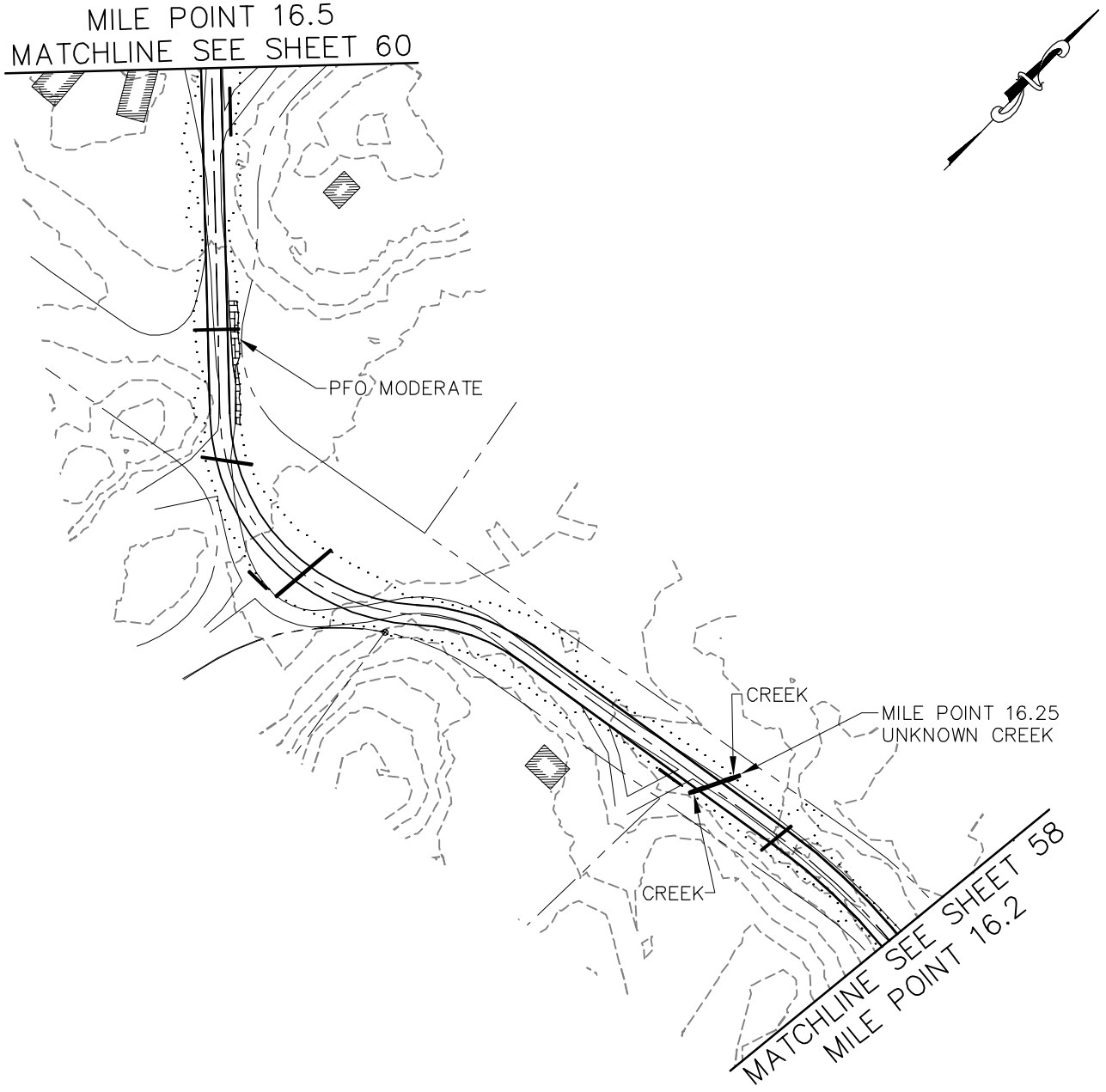
GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	58 OF 64



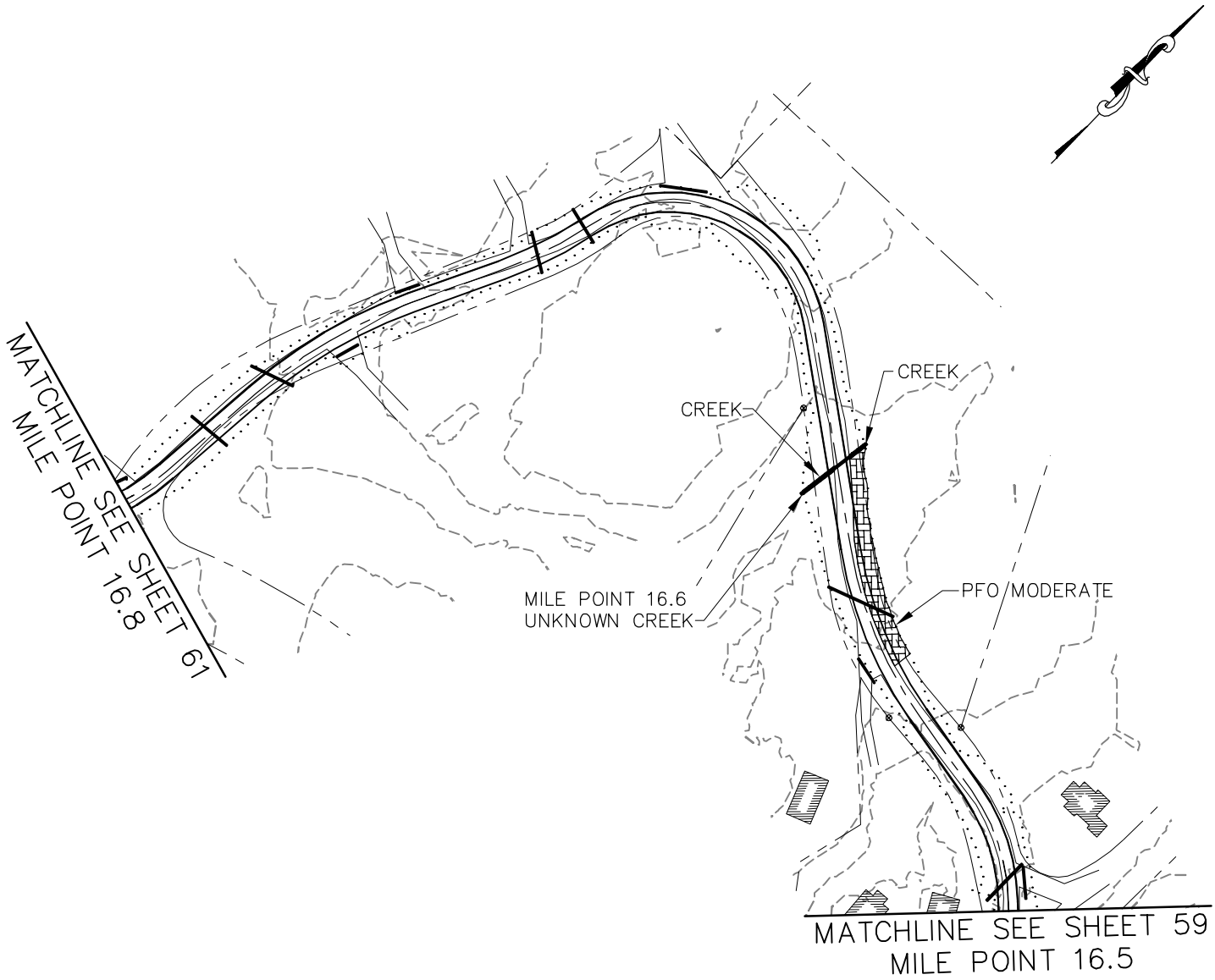
GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	59 OF 64



GRAPHIC SCALE

0 100 200 400

(IN FEET)

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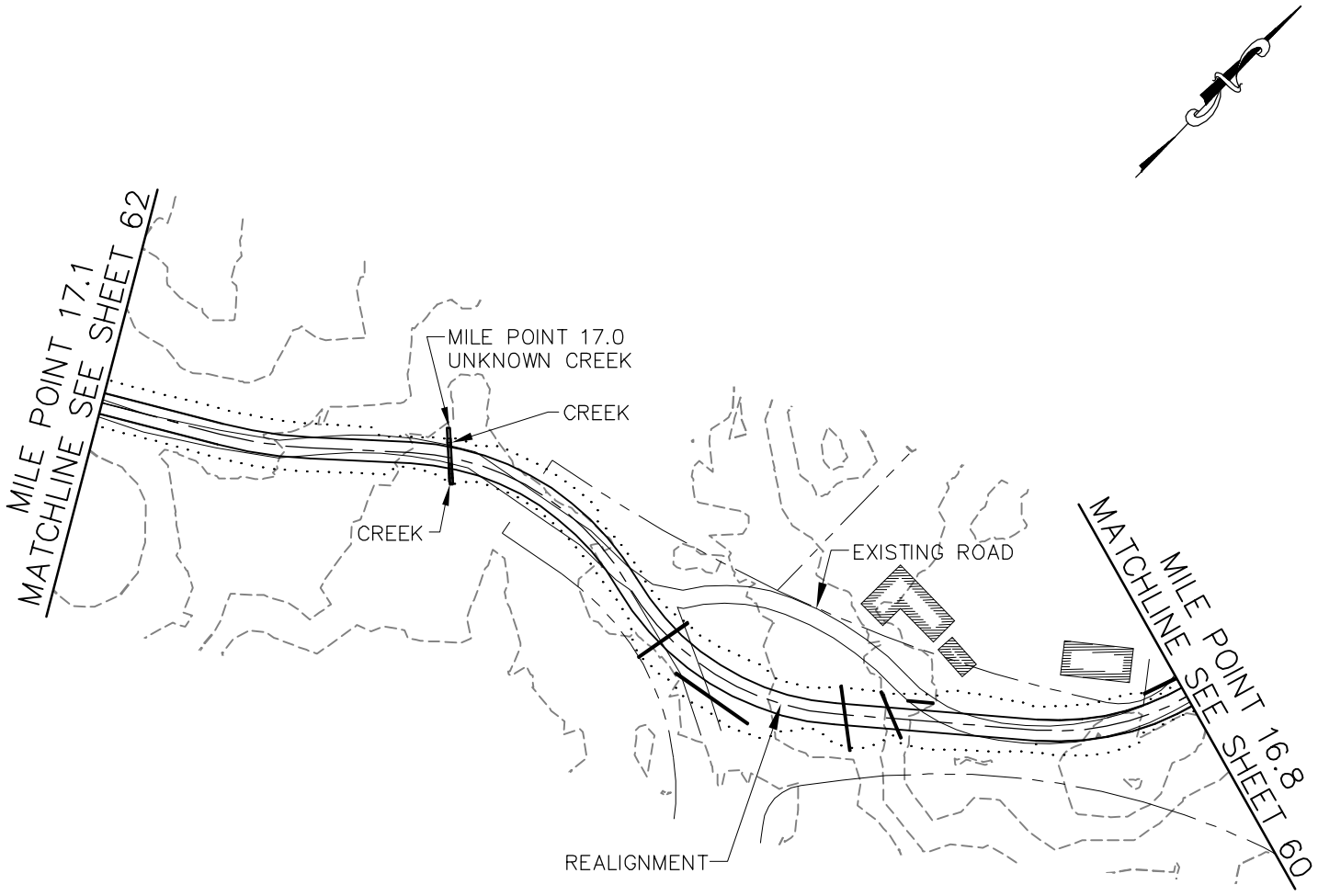
NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	60 OF 64



GRAPHIC SCALE

0 100 200 400

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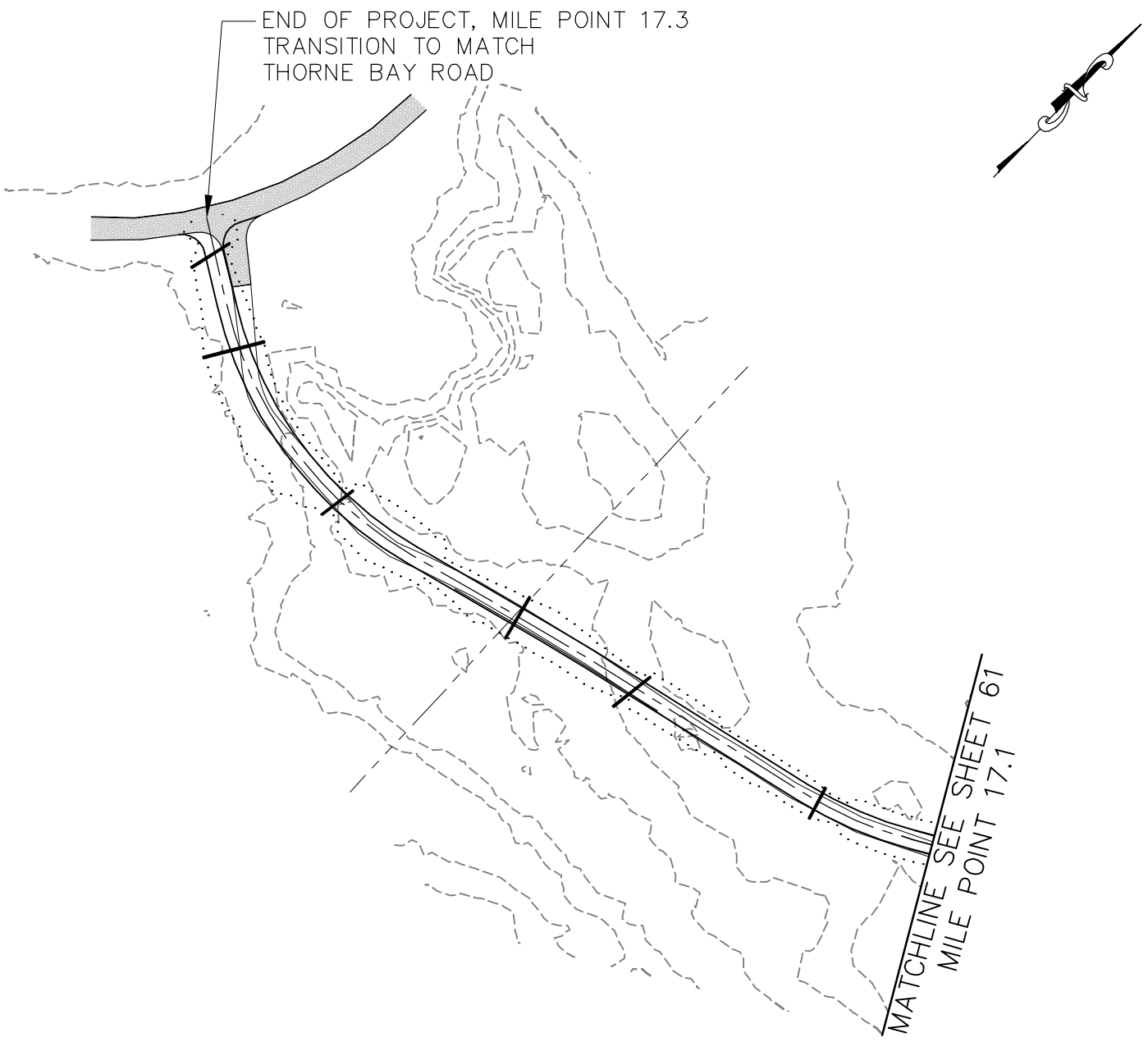
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	61 OF 64



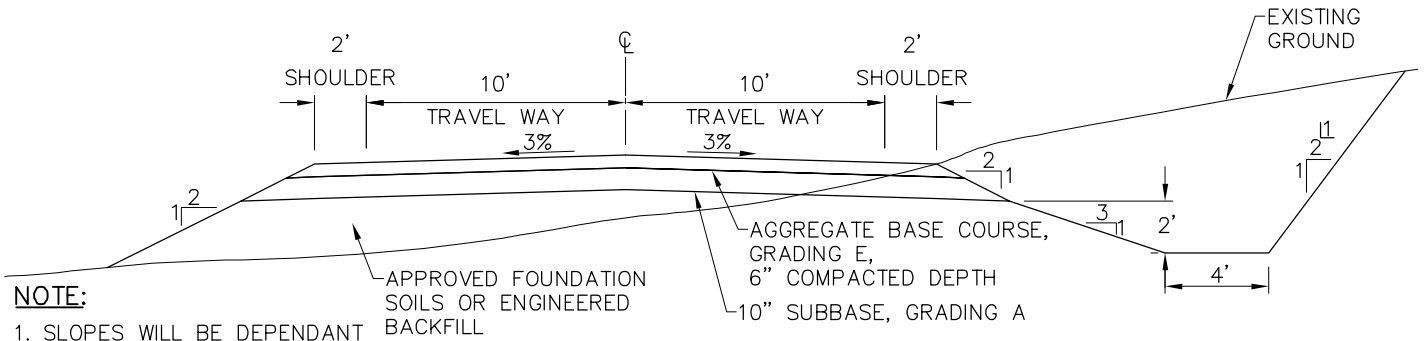
GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 ft.

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	62 OF 64

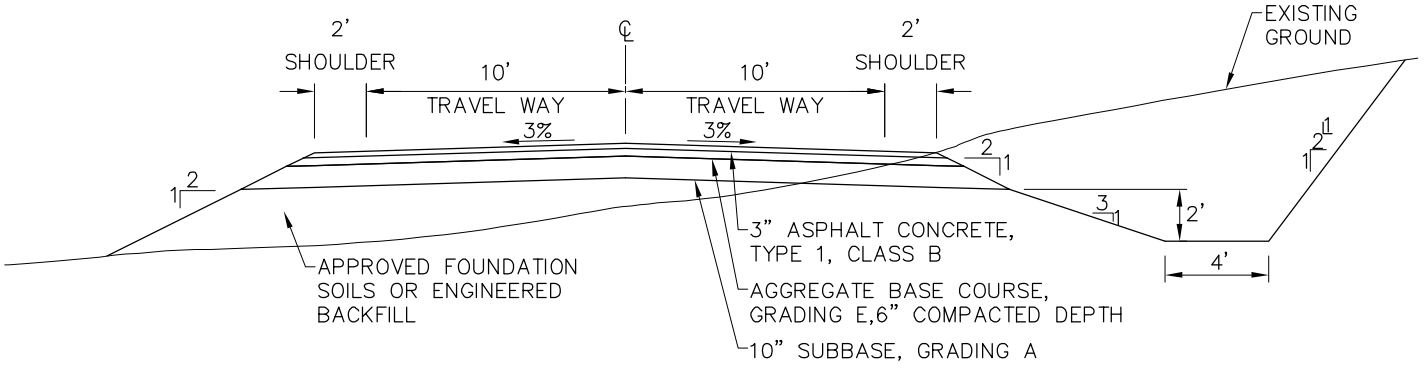


NOTE:

1. SLOPES WILL BE DEPENDANT ON SOIL/ROCK TYPE.
2. SEE SPECIAL CUT/FILL AND DITCH SUMMARY, SHEET C.10.

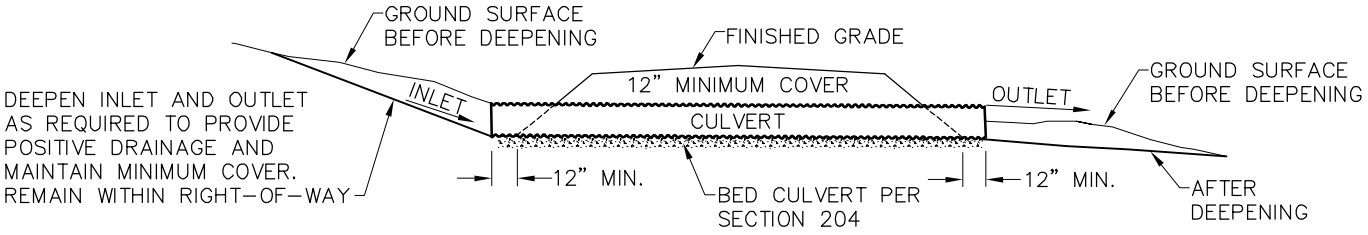
1 TYPICAL ROAD SECTION

-NTS-



2 TYPICAL A.C. ROAD SECTION

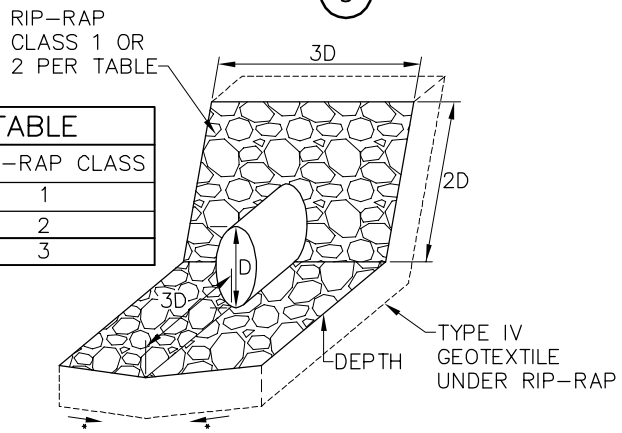
-NTS-



3 TYPICAL CULVERT PROFILE

-NTS-

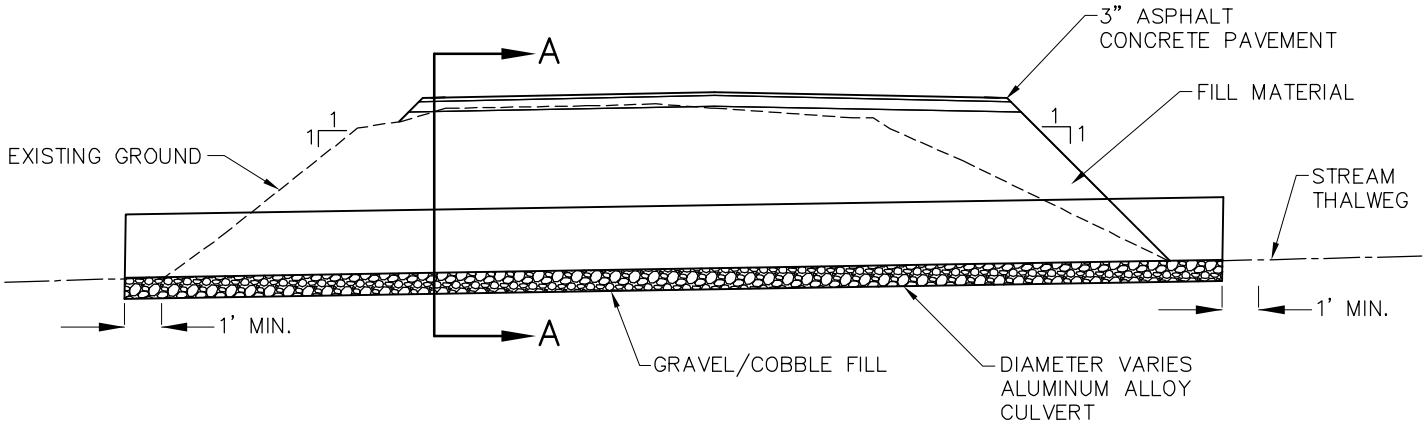
RIP-RAP TABLE		
CSP (D)	DEPTH	RIP-RAP CLASS
12"-24"	12"	1
36"-48"	16"	2
72"+	18"	3

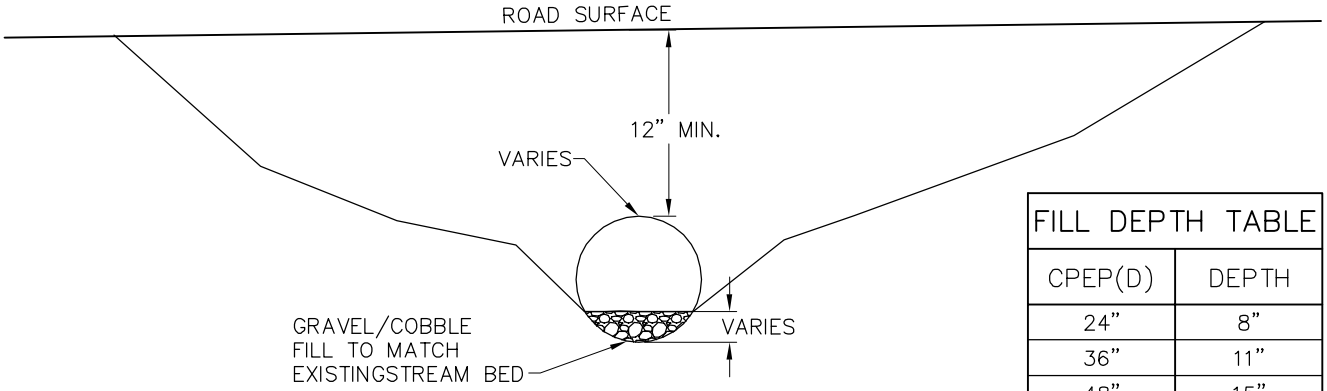


4 OUTLET/INLET PROTECTION

-NTS-

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	KASAAN BAY, TOLSTOI BAY, THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	63 OF 64





SECTION A–A

1 FISH PASSAGE DETAIL
-NTS-

FILL DEPTH TABLE	
CPEP(D)	DEPTH
24"	8"
36"	11"
48"	15"
60"	18"
72"	18"
84"	24"
144"	36"

NAME:	ORGANIZED VILLAGE OF KASAAN
PROJECT:	GOOSE CREEK ROAD
LOCATION:	SECTIONS 25, 26 T71S R83E SECTION 29, 30, 32, 33 T71S R84E SECTION 3, 4, 10, 13, 14, 15, 24, 25 T72S R84E SECTION 30, 31 T72S R85E SECTION 1, 2, 12 T73S R85E SECTION 7, 18 T73S, R86E COPPER RIVER MERIDIAN
WATERBODY:	KASAAN BAY, TOLSTOI BAY, THORNE BAY
DATE:	OCTOBER 26, 2012
SHEET:	64 OF 64

The following table presents the mile point of the culverted open water crossings, name of water crossing if known, amount of cubic yards placed below ordinary high water, area of open water filled.

Mile Point	Water Body Crossed	Volume of Fill (cy)	Area of Impact (ac)
0.2	Unknown Creek	16.53	0.0013
0.26	Inkum Creek	23.47	0.0084
0.6	Unknown Creek	2.22	0.0022
1.11	Unknown Creek	14.43	0.0018
1.2	Unknown Creek	25.64	0.0012
1.3	Unknown Creek	16.04	0.0027
1.34	Unknown Creek	8.12	0.0021
1.4	Unknown Creek	2.22	0.0169
2.13	Unknown Creek	4.16	0.0015
2.27	Unknown Creek	13.62	0.0035
2.4	Unknown Creek	13.30	0.0013
2.66	Unknown Creek	14.09	0.0033
3.15	Label Creek	50.39	0.0236
3.21	Unknown Creek	4.32	0.0060
3.6	Unknown Creek	20.85	0.0036
3.7	Unknown Creek	10.54	0.0020
3.8	Unknown Creek	3.67	0.0018
4	Unknown Creek	5.61	0.0029
4.06	Unknown Creek	9.41	0.0024
4.11	Unknown Creek	4.64	0.0021
4.4	Unknown Creek	2.22	0.0526
4.7	Unknown Creek	23.14	0.0085
4.9	Unknown Creek	32.32	0.0142
5.1	Trib to Tolstoi Creek	100.45	0.0650
5.4	Unknown Creek	6.90	0.0048
5.6	Unknown Creek	10.77	0.0038
5.7	Unknown Creek	12.06	0.0078
6	Unknown Creek	23.47	0.0099
6.2	Unknown Creek	13.28	0.0027
6.3	Unknown Creek	60.72	0.0290
6.8	Unknown Creek	17.50	0.0039
7.2	Unknown Creek	21.50	0.0275
7.6	Trib to Tolstoi Pond	131.51	0.0241

7.73	Unknown Creek	9.90	0.0019
7.77	Unknown Creek	12.66	0.0035
7.9	Unknown Creek	3.35	0.0011
8.2	Unknown Creek	14.41	0.0015
8.25	Unknown	3.35	0.0025
9.1	Unknown Creek	14.00	0.0107
10.05	Trib to Setter Lake	42.80	0.0090
10.06	Trib to Setter Lake	59.91	0.0073
10.07	Trib to Setter Lake	62.81	0.0087
10.61	Unknown Creek	5.61	0.0132
10.65	Unknown Creek	6.58	0.0071
10.7	Unknown Creek	11.03	0.0057
10.81	Unknown Creek	11.90	0.0096
10.9	Unknown Creek	4.32	0.0071
11	Unknown Creek	4.48	0.0029
11.3	Unknown Creek	149.90	0.0279
11.4	Unknown Creek	12.16	0.0036
11.5	Unknown Creek	5.29	0.0013
11.8	Unknown Creek	8.28	0.0015
12	Unknown Creek	5.29	0.0029
12.2	Unknown Creek	4.48	0.0027
12.6	Unknown Creek	43.45	0.0166
12.76	Unknown Creek	16.04	0.0018
12.8	Unknown Creek	9.96	0.0057
12.9	Unknown Creek	14.16	0.0075
13.4	Unknown Creek	24.89	0.0059
13.7	Unknown Creek	10.54	0.0036
13.73	Unknown Creek	22.50	0.0036
14.3	Unknown Creek	3.02	0.0053
14.34	Unknown Creek	21.01	0.0027
14.5	Unknown Creek	13.79	0.0022
14.9	Unknown Creek	16.04	0.0035
15.2	Unknown Creek	27.50	0.0109
15.3	Unknown Creek	14.75	0.0024
16.1	Unknown Creek	15.56	0.0040
16.25	Unknown Creek	9.74	0.0034
16.6	Unknown Creek	9.14	0.0084
17	Trib to Goose Creek	6.41	0.0034

The following table presents a list of mile post bridged open water crossing, name of open water, amount of cubic yards placed below ordinary high water.

Bridge Crossing Table

Mile Point	Water Body Crossed	Volume of Fill (cy)	Area of Impact (ac)
4.4	Tolstoi Creek	750	0.14
5.9	Tolstoi Creek	489	0.02
8.5	Loon Creek	1,150	0.13

Compensation for Unavoidable Impacts to Waters of the U.S. including wetlands:

The applicant will complete several projects as part of the compensation for the impacts to Waters of the U.S. including wetlands including:

Upgrade resident and anadromous fish crossings along the road to enhance the aquatic resources along the roadway. The applicant will monitor the resident and anadromous fish crossings to ensure they are performing. In the invert that they are not functioning as intended then the applicant will work with the facility owner to correct the deficiency.

Document baseline salmon distribution and habitat conditions in Karta River, Son-I-hat Creek, and Jacob's Creek watersheds in Southeast Alaska. The project will enhance the understanding of salmon distribution and riparian habitat conditions in the Kasaan area watersheds. This will ensure fish passage as well as adequate riparian buffers on salmon spawning and rearing habitat—along with important information on habitat characteristics such as stream channel type, pools, and presence of large woody debris that can be documented as baseline conditions for future conservation. The project will document fish presence and habitat quality in order to help protect and preservation of resources or informed restoration actions.

Surveys will be focused on uncataloged low slope reaches, and areas of concern. Field teams will map the course of each stream within each watershed, which will provide the spatial data necessary for delineating watered channels and their connectivity with tributaries, side channels and lakes/ponds. GPS waypoints will be collected every 15-30 m (depending on complexity of stream) as the crew follows the stream course. Digital photographs also will be taken at these locations. For each stream that reaches the lake system and each outlet creek, stream discharge will be measured. Data loggers will be installed at the mouth of each watershed and large tributaries. Temperature and discharge regimes collected when the loggers are retrieved in the fall will be used as baseline information for the watershed and included in subsequent reports as additional data.

Data will be collected on features of interest encountered while mapping the stream course, such as: culverts, fish passage barriers, riparian disturbance, erosion, restoration, etc. Waypoints will identify the spatial location, and field measurements and pictures will document the feature site.

Individual stream reaches will be characterized by classifying geomorphic channel type and stream class using the U.S. Forest Service protocols, which form the basis of the ADF&G Stream Habitat Assessment protocols. Upper and lower waypoints for each stream reach will be collected, along with data used for geomorphic channel typing.

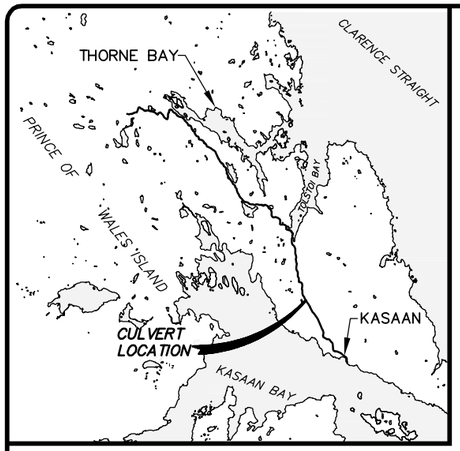
Fish observation points also will be collected along each stream reach, including additional points above and below features thought to be the extent of fish habitat along each stream within each watershed system. Minnow trapping will be the primary data

collection method used for collecting information to be used in the nominations for the AWC. At selected sites, baited minnow traps will be used to quantify smolt and fry life stages of all fish within each stream. Data for these fish observation points will be in accordance to the cited protocols for the Stream Habitat Surveys.

Late in the season, adult foot count surveys will be completed for each system. Crews will walk the upper tributaries and tally the number of adult fish seen within the creek, or dead carcasses along the banks. GPS points will be taken at the end of each upper creek survey when no evidence of adult fish remains, in order to document where adult fish spawning areas are within the watershed.

Anadromous Waters Catalog survey data will be compiled in the appropriate format and submitted for nomination. Stream habitat survey data will be compiled in the appropriate format and submitted to the Southeast Alaska GIS Library for inclusion in the joint U.S. Forest Service-ADF&G regional hydrographic dataset.

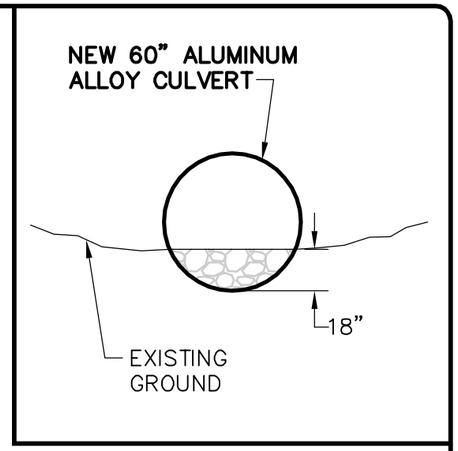
The primary benefit of this project is that watersheds surveyed for this project will receive the conservation measures and protections required by law for anadromous waters, and the development of an effective baseline inventory of important salmon habitat and their riparian areas.

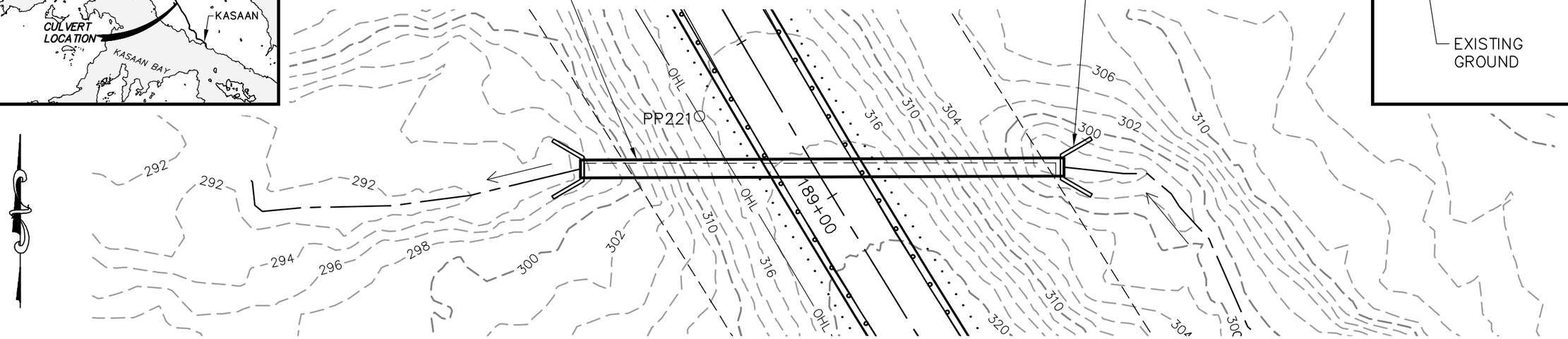


SEC 2, T73S, R85E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0027

RESIDENT STREAM





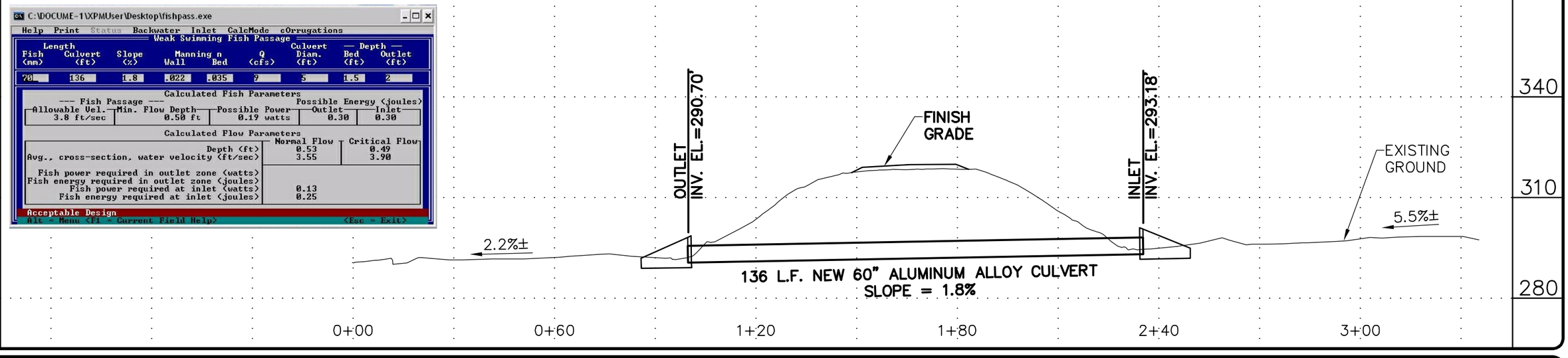
LEGEND

CENTERLINE	DAYLIGHT LINES
310 CONTOUR (MAJOR)	EXISTING CULVERT
312 CONTOUR (MINOR)	EXISTING RIGHT-OF-WAY
EXISTING ROAD	GUARDRAIL
FLOW DIRECTION	OHL OVERHEAD LINE
NEW CULVERT	PROPOSED ROAD
PP221 ○	POWER POLE & NUMBER

GRAPHIC SCALE

30 0 15 30

1 inch = 30 ft.



ORGANIZED VILLAGE OF KASAAN
P.O. BOX 26-KASAAN
KASAAN, ALASKA 99950

RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
ALASKA REGIONAL OFFICE

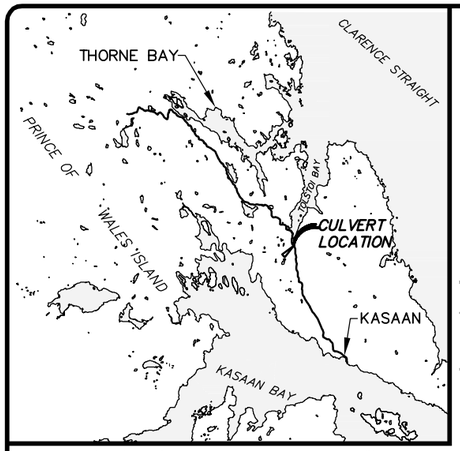
U.S. Department of Transportation
Federal Highway Administration

KASAAN TO GOOSE CREEK
ROAD PROJECT
KASAAN, ALASKA

FISH PASSAGE CULVERT
STA. 189+09
POWER POLE 221

DESIGNED BY:	BLP
DRAWN BY:	JCS
APPROVED BY:	BLP
DATE:	OCTOBER 31, 2012
SCALE:	HORZ: 1"=30' VERT: 1"=30'

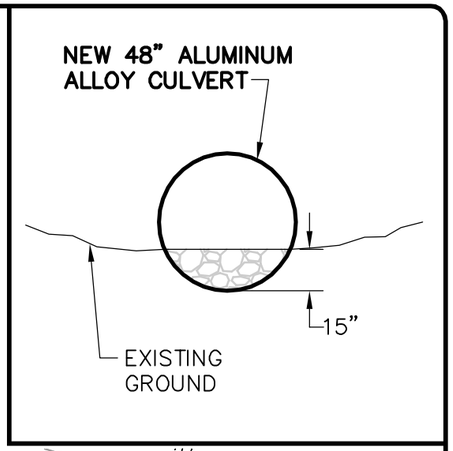
FIGURE 1

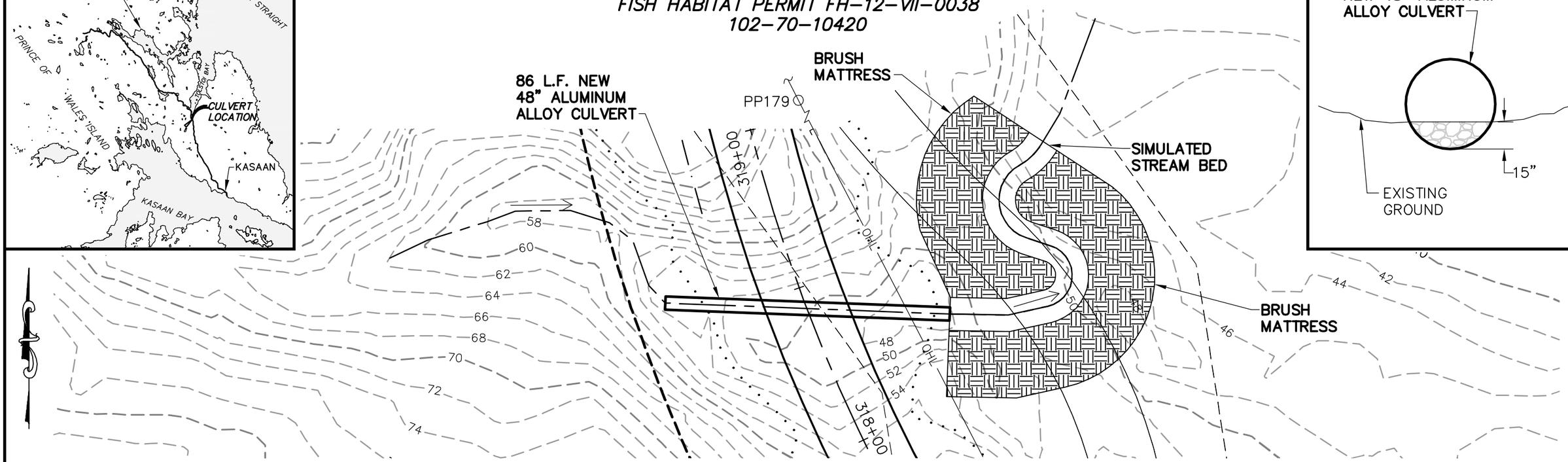


SEC 24, T72S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0038

102-70-10420

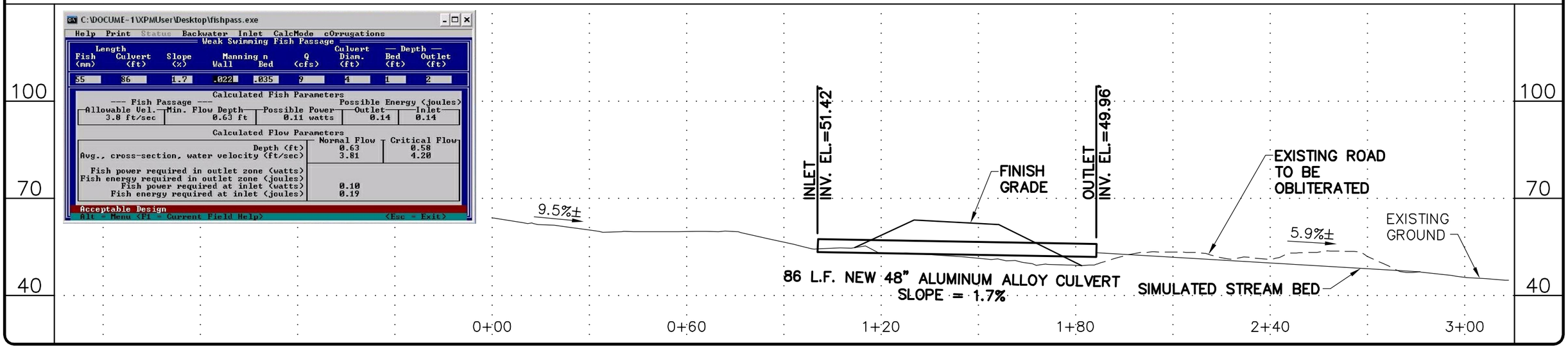




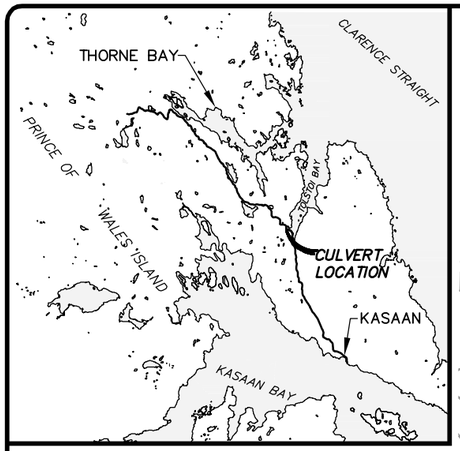
LEGEND

GRAPHIC SCALE
30 0 15 30
1 inch = 30 ft.

- CENTERLINE
- 310 CONTOUR (MAJOR)
- 312 CONTOUR (MINOR)
- DAYLIGHT LINES
- EXISTING RIGHT-OF-WAY
- EXISTING ROAD
- FLOW DIRECTION
- NEW CULVERT
- NEW RIGHT-OF-WAY
- OHL OVERHEAD LINE
- PROPOSED ROAD
- PP179 ○ POWER POLE & NUMBER



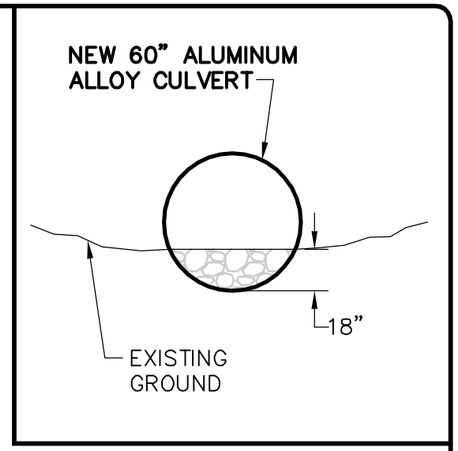
ORGANIZED VILLAGE OF KASAAN P.O. BOX 26-KASAAN KASAAN, ALASKA 99950	RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS ALASKA REGIONAL OFFICE	U.S. Department of Transportation Federal Highway Administration	KASAAN TO GOOSE CREEK ROAD PROJECT KASAAN, ALASKA	FISH PASSAGE CULVERT STA. 318+43 POWER POLE 179-180	DESIGNED BY: BLP DRAWN BY: JCS APPROVED BY: BLP DATE: OCTOBER 31, 2012 SCALE: HORZ: 1"=30' VERT: 1"=30'	FIGURE 2

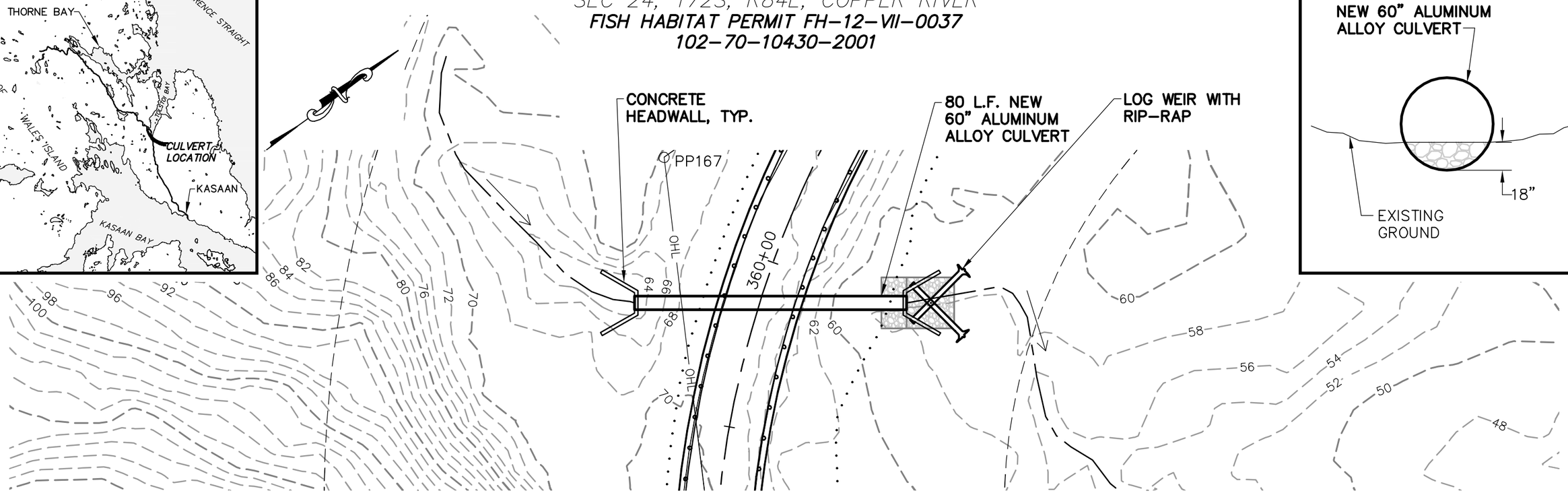


SEC 24, T72S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0037

102-70-10430-2001

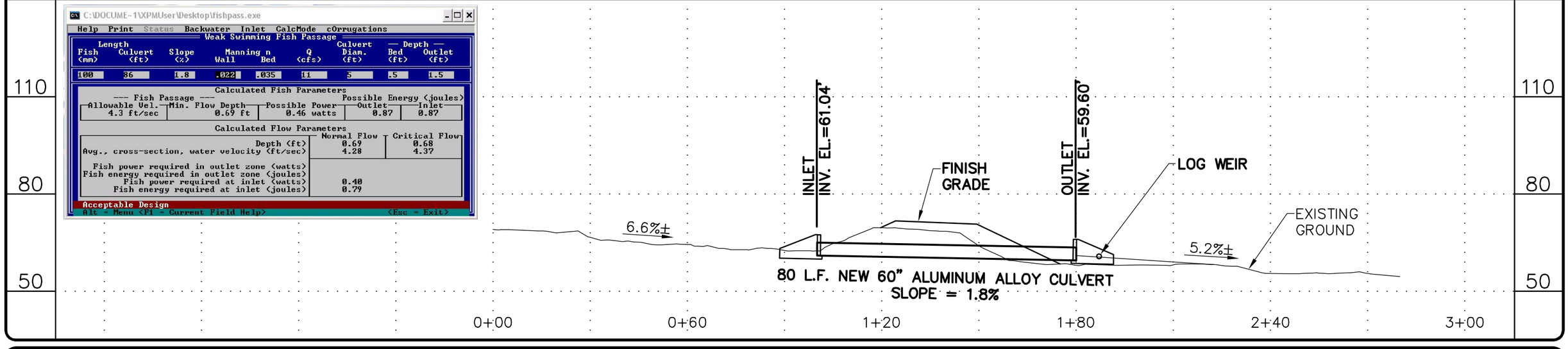




LEGEND

GRAPHIC SCALE
30 0 15 30
1 inch = 30 ft.

- CENTERLINE
- 310 CONTOUR (MAJOR)
- 312 CONTOUR (MINOR)
- DAYLIGHT LINES
- EXISTING RIGHT-OF-WAY
- EXISTING ROAD
- FLOW DIRECTION
- NEW CULVERT
- GUARDRAIL
- OHL OVERHEAD LINE
- PROPOSED ROAD
- PP167 ○ POWER POLE & NUMBER



ORGANIZED VILLAGE OF KASAAN
P.O. BOX 26-KASAAN
KASAAN, ALASKA 99950

RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
ALASKA REGIONAL OFFICE

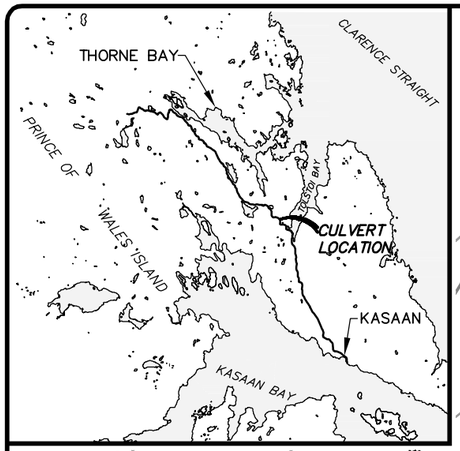
U.S. Department of Transportation
Federal Highway Administration

KASAAN TO GOOSE CREEK ROAD PROJECT
KASAAN, ALASKA

FISH PASSAGE CULVERT
STA. 359+87
POWER POLE 167-168

DESIGNED BY:	BLP
DRAWN BY:	JCS
APPROVED BY:	BLP
DATE:	OCTOBER 31, 2012
SCALE:	HORZ: 1"=30' VERT: 1"=30'

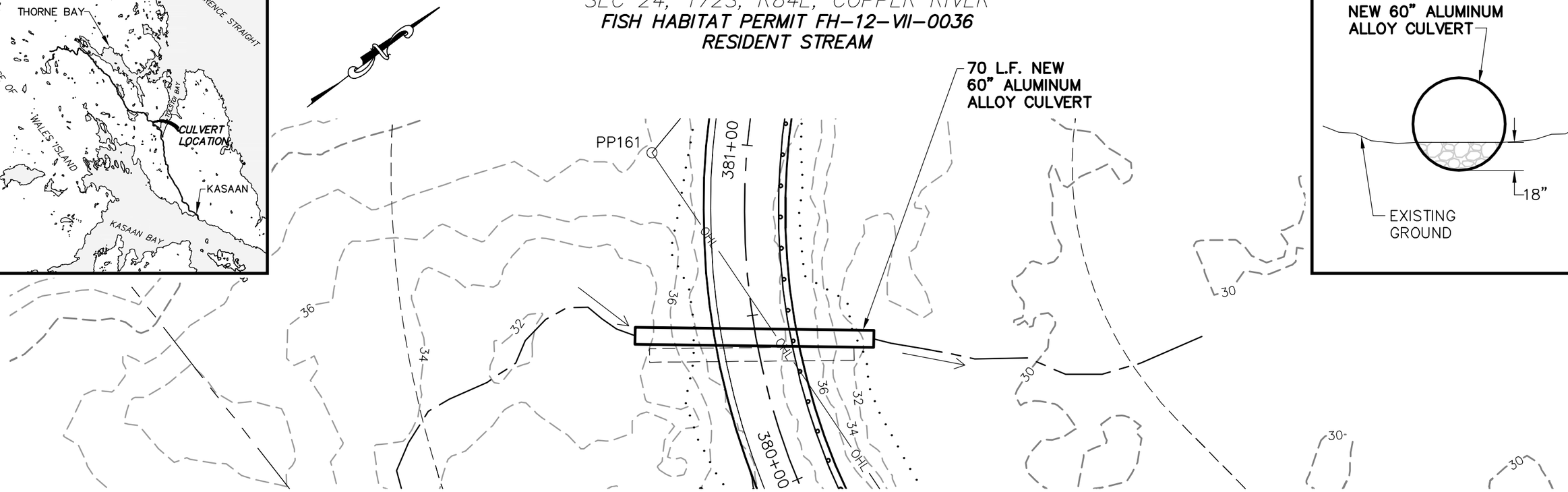
FIGURE 3

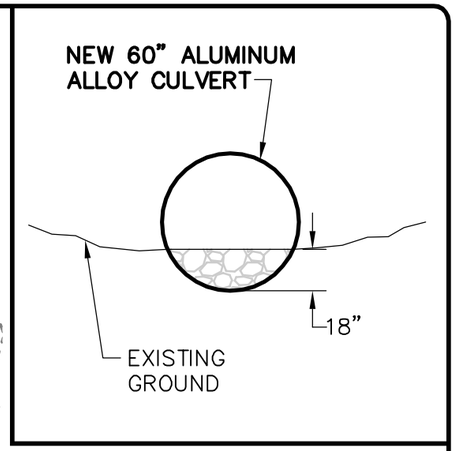


SEC 24, T72S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0036

RESIDENT STREAM

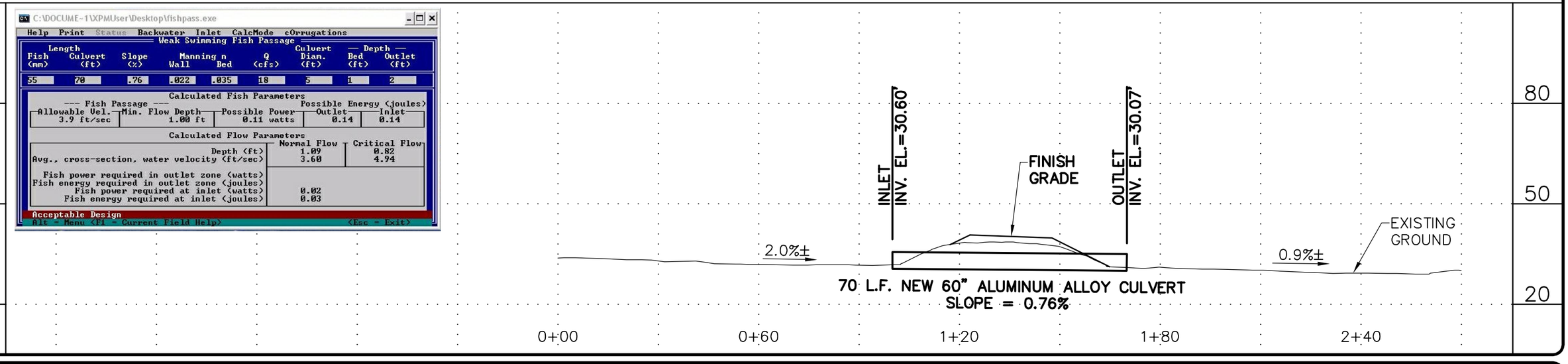




LEGEND

GRAPHIC SCALE
30 0 15 30
1 inch = 30 ft.

- CENTERLINE
- 310 CONTOUR (MAJOR)
- 312 CONTOUR (MINOR)
- DAYLIGHT LINES
- EXISTING RIGHT-OF-WAY
- EXISTING ROAD
- FLOW DIRECTION
- NEW CULVERT
- GUARDRAIL
- OHL OVERHEAD LINE
- PROPOSED ROAD
- SECTION LINE
- PP161 ○ POWER POLE & NUMBER



ORGANIZED VILLAGE OF KASAAN
P.O. BOX 26-KASAAN
KASAAN, ALASKA 99950

RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
ALASKA REGIONAL OFFICE

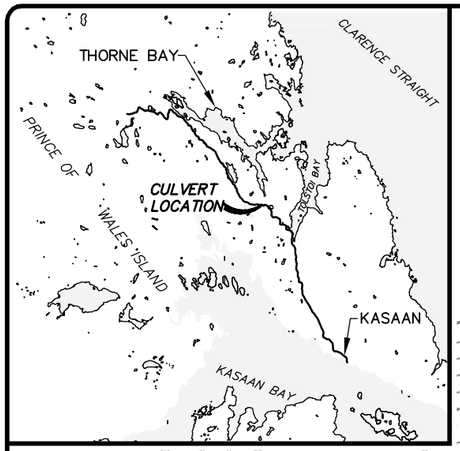
U.S. Department of Transportation
Federal Highway Administration

KASAAN TO GOOSE CREEK
ROAD PROJECT
KASAAN, ALASKA

FISH PASSAGE CULVERT
STA. 380+43
POWER POLE 161-162

DESIGNED BY:	BLP
DRAWN BY:	JCS
APPROVED BY:	BLP
DATE:	OCTOBER 31, 2012
SCALE:	HORZ: 1"=30' VERT: 1"=30'

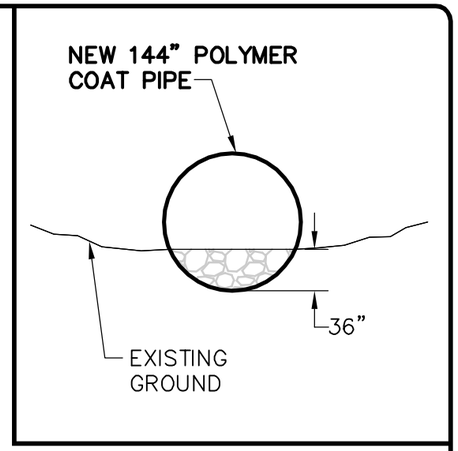
FIGURE 4

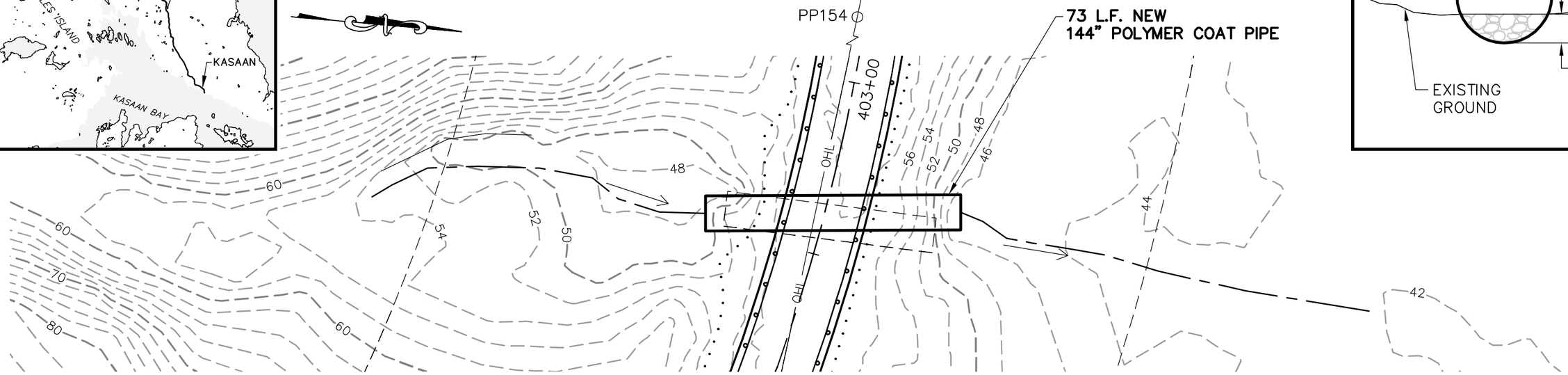


SEC 13, T72S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0035

TRIBUTARY TO TOLSTOI POND

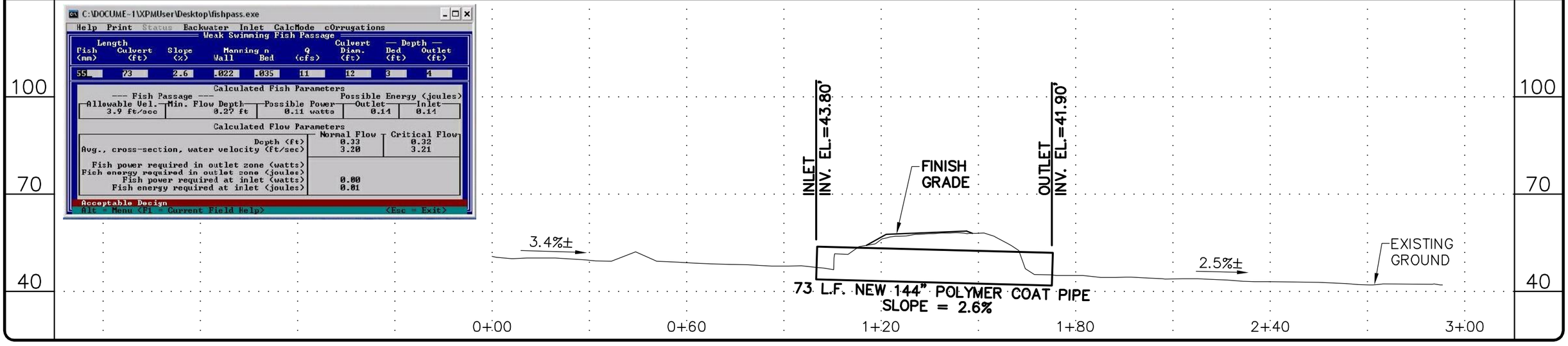




LEGEND

GRAPHIC SCALE
30 0 15 30
1 inch = 30 ft.

- CENTERLINE
- 310 CONTOUR (MAJOR)
- 312 CONTOUR (MINOR)
- DAYLIGHT LINES
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- EXISTING ROAD
- FLOW DIRECTION
- NEW CULVERT
- GUARDRAIL
- OHL OVERHEAD LINE
- PROPOSED ROAD
- PP154 POWER POLE & NUMBER



ORGANIZED VILLAGE OF KASAAN
P.O. BOX 26-KASAAN
KASAAN, ALASKA 99950

RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
ALASKA REGIONAL OFFICE

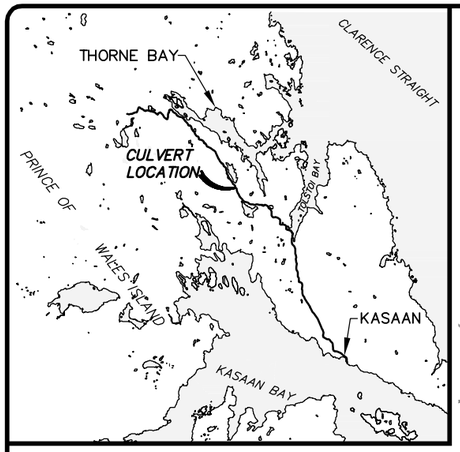
U.S. Department of Transportation
Federal Highway Administration

KASAAN TO GOOSE CREEK ROAD PROJECT
KASAAN, ALASKA

FISH PASSAGE CULVERT
STA. 402+62
POWER POLE 154-155

DESIGNED BY:	BLP
DRAWN BY:	JCS
APPROVED BY:	BLP
DATE:	OCTOBER 31, 2012
SCALE:	HORZ: 1"=30' VERT: 1"=30'

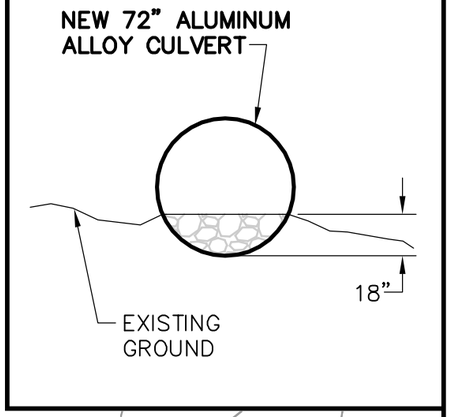
FIGURE 5

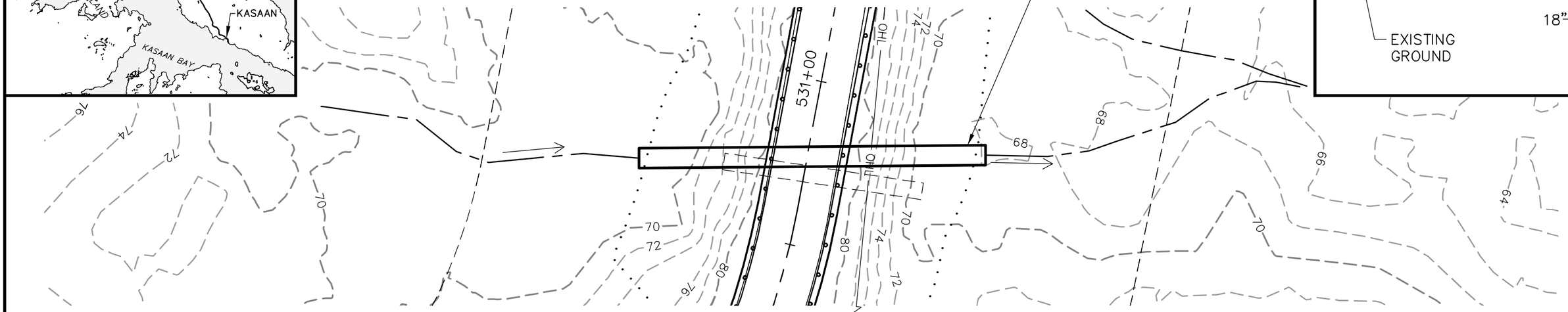


SEC 10, T72S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0034

TRIBUTARY TO 102-70-10550-2050





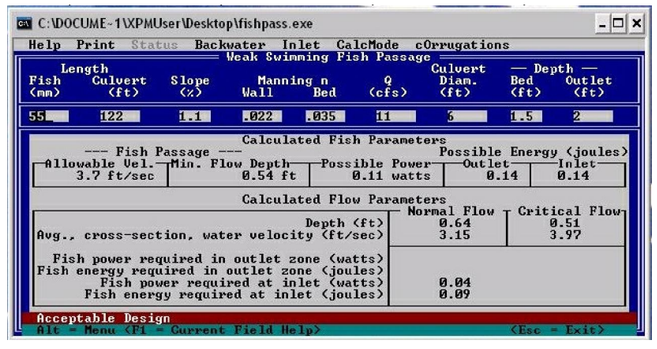
GRAPHIC SCALE

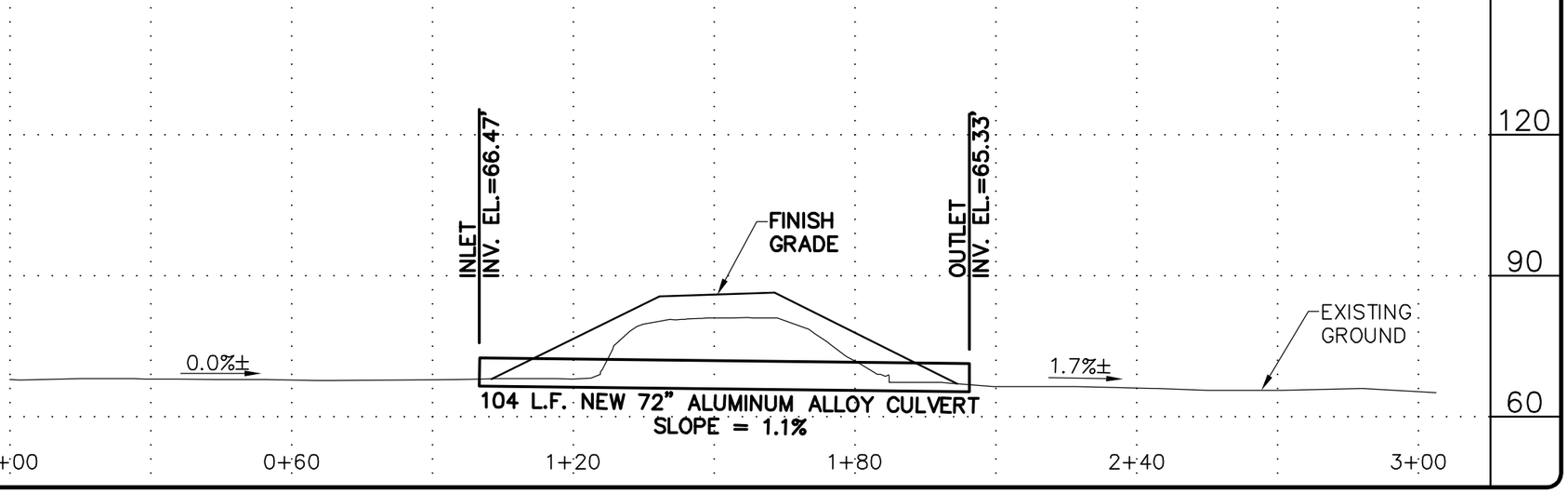
30 0 15 30

1 inch = 30 ft.

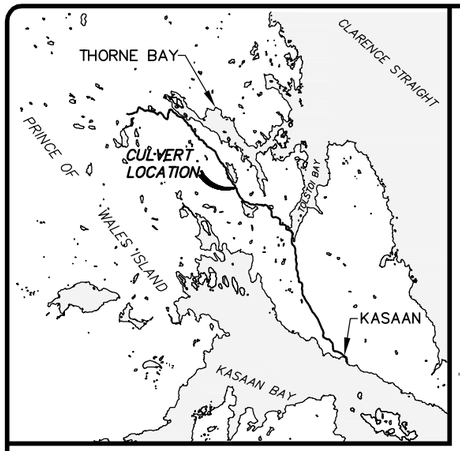
LEGEND

CENTERLINE	DAYLIGHT LINES	EXISTING ROAD	GUARDRAIL
310 CONTOUR (MAJOR)	EXISTING CULVERT	FLOW DIRECTION	OHL OVERHEAD LINE
312 CONTOUR (MINOR)	EXISTING RIGHT-OF-WAY	NEW CULVERT	PROPOSED ROAD
		PP118	POWER POLE & NUMBER





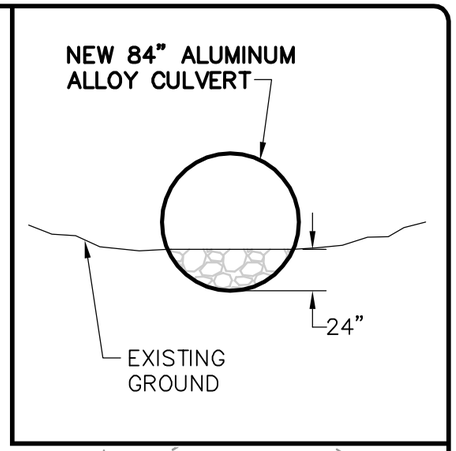
ORGANIZED VILLAGE OF KASAAN P.O. BOX 26-KASAAN KASAAN, ALASKA 99950	RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS ALASKA REGIONAL OFFICE	U.S. Department of Transportation Federal Highway Administration	KASAAN TO GOOSE CREEK ROAD PROJECT KASAAN, ALASKA	FISH PASSAGE CULVERT STA. 530+77 POWER POLE 117-118	DESIGNED BY: BLP DRAWN BY: JCS APPROVED BY: BLP DATE: OCTOBER 31, 2012 SCALE: HORZ: 1"=30' VERT: 1"=30'	FIGURE 6

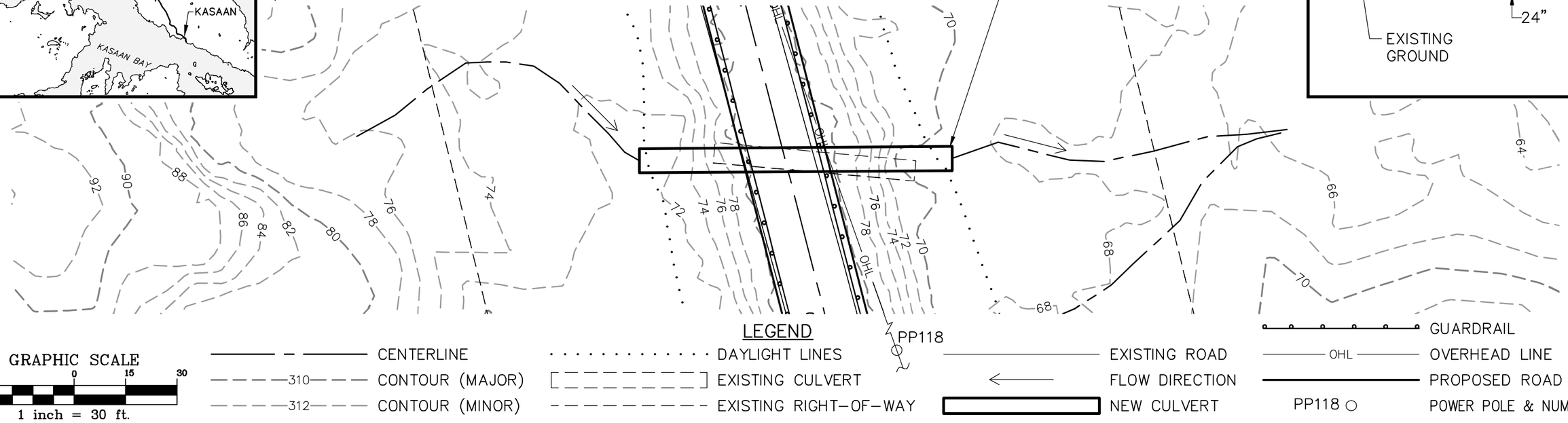


SEC 10, T72S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0032

102-70-10550-2050





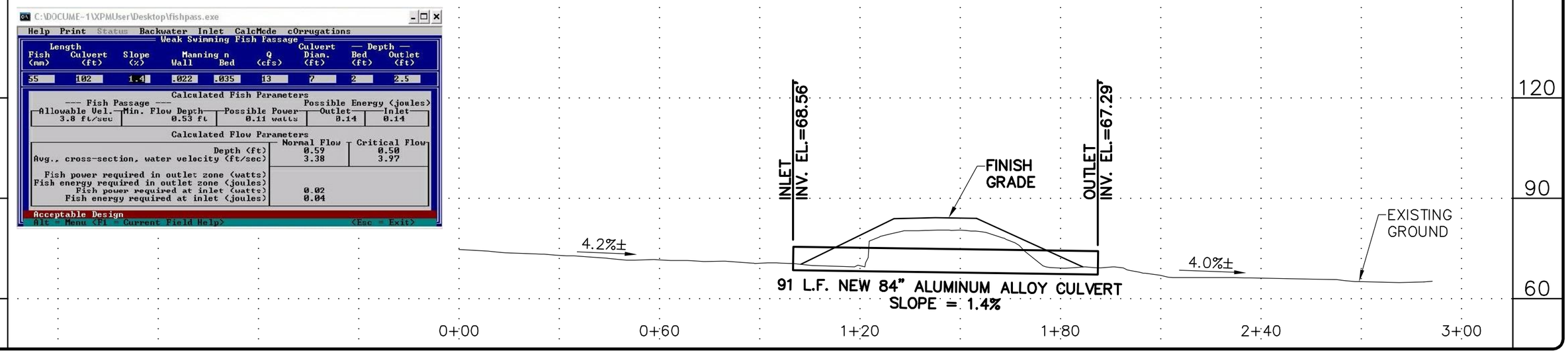
GRAPHIC SCALE

30 0 15 30

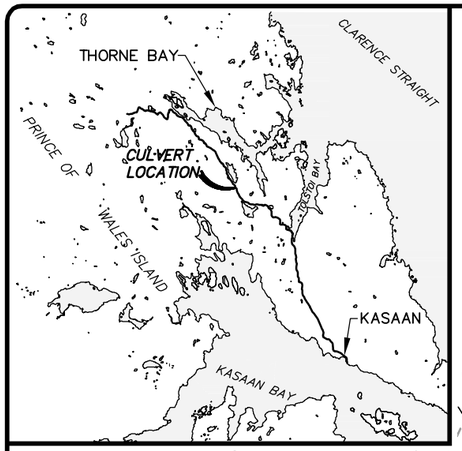
1 inch = 30 ft.

LEGEND

CENTERLINE	DAYLIGHT LINES	EXISTING ROAD	GUARDRAIL
310 CONTOUR (MAJOR)	EXISTING CULVERT	FLOW DIRECTION	OHL OVERHEAD LINE
312 CONTOUR (MINOR)	EXISTING RIGHT-OF-WAY	NEW CULVERT	PROPOSED ROAD
		PP118 ○	POWER POLE & NUMBER



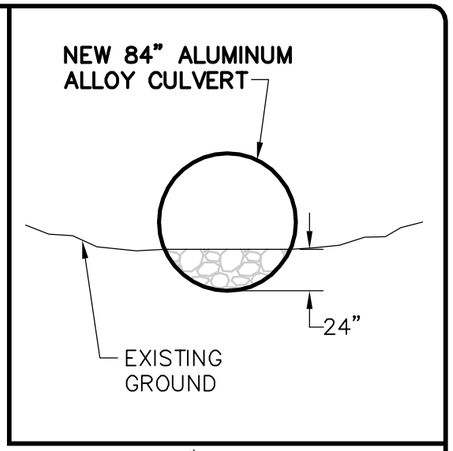
ORGANIZED VILLAGE OF KASAAN P.O. BOX 26-KASAAN KASAAN, ALASKA 99950	RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS ALASKA REGIONAL OFFICE	U.S. Department of Transportation Federal Highway Administration	KASAAN TO GOOSE CREEK ROAD PROJECT KASAAN, ALASKA	FISH PASSAGE CULVERT STA. 531+53 POWER POLE 117-118	DESIGNED BY: BLP DRAWN BY: JCS APPROVED BY: BLP DATE: OCTOBER 31, 2012 SCALE: HORZ: 1"=30' VERT: 1"=30'	FIGURE 7

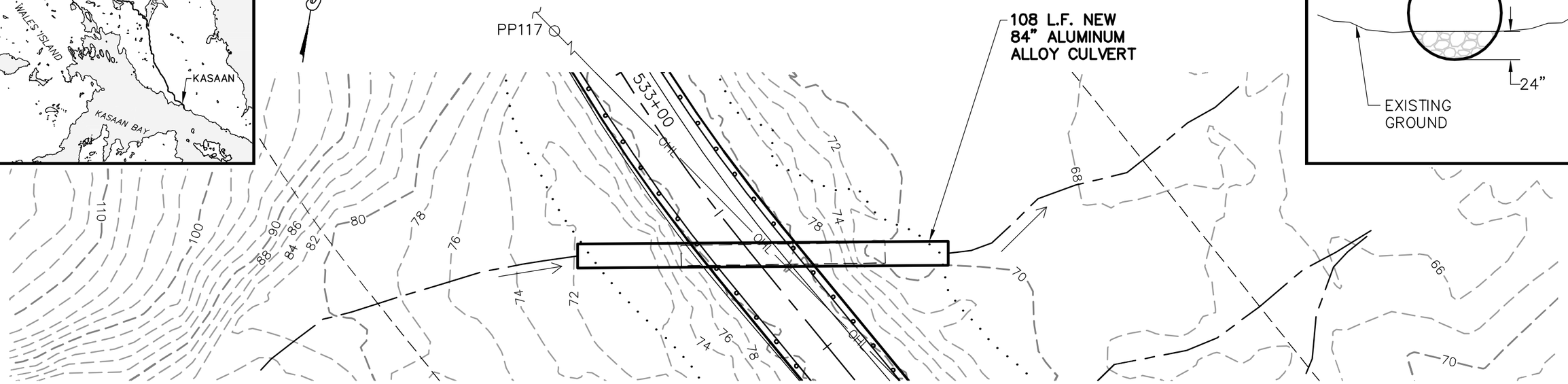


SEC 10, T72S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0033

102-70-10550-2050





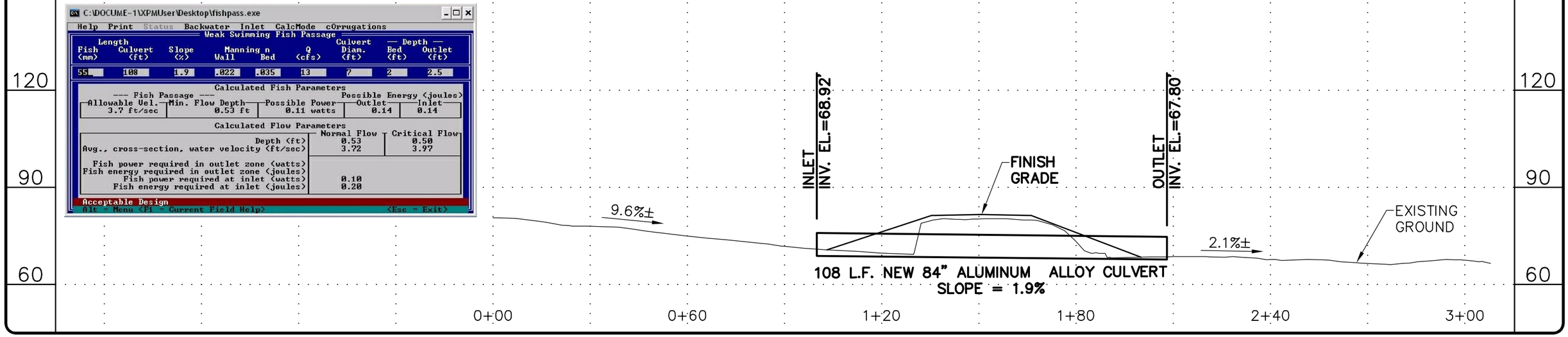
LEGEND

CENTERLINE	DAYLIGHT LINES
310 CONTOUR (MAJOR)	EXISTING CULVERT
312 CONTOUR (MINOR)	EXISTING RIGHT-OF-WAY
EXISTING ROAD	GUARDRAIL
FLOW DIRECTION	OHL OVERHEAD LINE
NEW CULVERT	PROPOSED ROAD
PP117 ○	POWER POLE & NUMBER

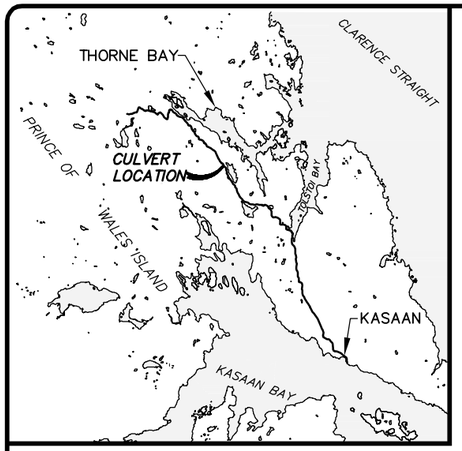
GRAPHIC SCALE

30 0 15 30

1 inch = 30 ft.



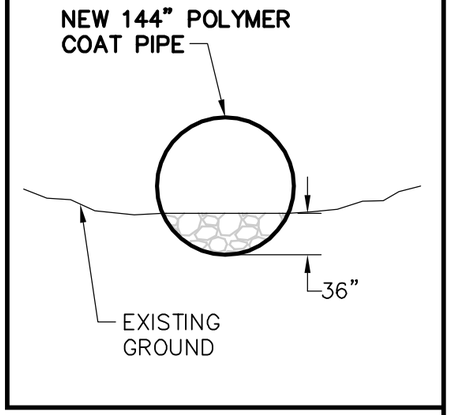
ORGANIZED VILLAGE OF KASAAN P.O. BOX 26-KASAAN KASAAN, ALASKA 99950	RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS ALASKA REGIONAL OFFICE	U.S. Department of Transportation Federal Highway Administration	KASAAN TO GOOSE CREEK ROAD PROJECT KASAAN, ALASKA	FISH PASSAGE CULVERT STA. 532+22 POWER POLE 117-118	DESIGNED BY: BLP DRAWN BY: JCS APPROVED BY: BLP DATE: OCTOBER 31, 2012 SCALE: HORZ: 1"=30' VERT: 1"=30'	FIGURE 8

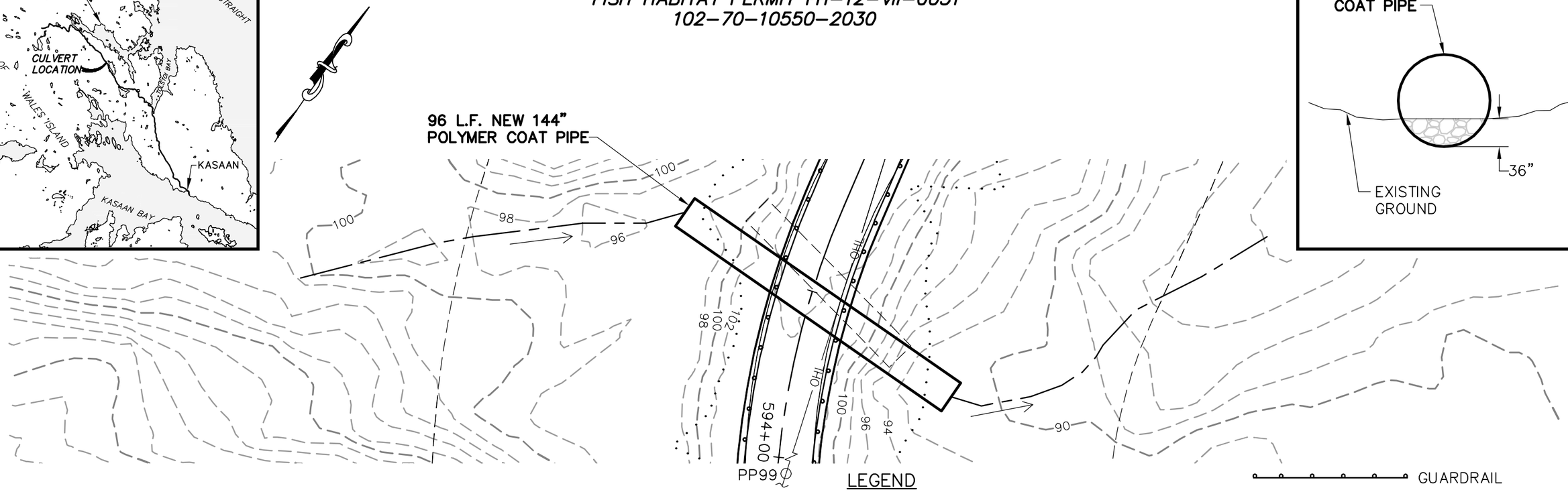


SEC 10, T72S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0031

102-70-10550-2030

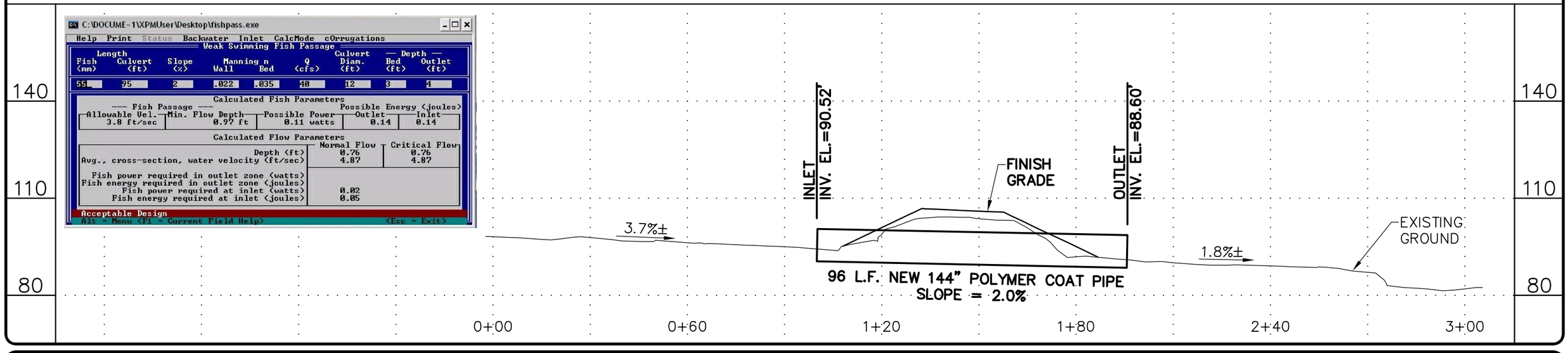




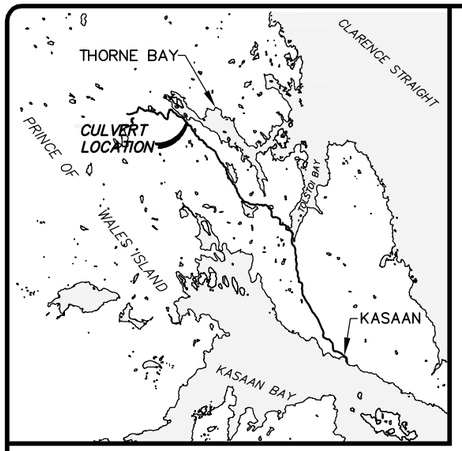
LEGEND

GRAPHIC SCALE
30 0 15 30
1 inch = 30 ft.

- CENTERLINE
- 310 CONTOUR (MAJOR)
- 312 CONTOUR (MINOR)
- DAYLIGHT LINES
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- EXISTING ROAD
- FLOW DIRECTION
- NEW CULVERT
- GUARDRAIL
- OHL OVERHEAD LINE
- PROPOSED ROAD
- PP99 POWER POLE & NUMBER



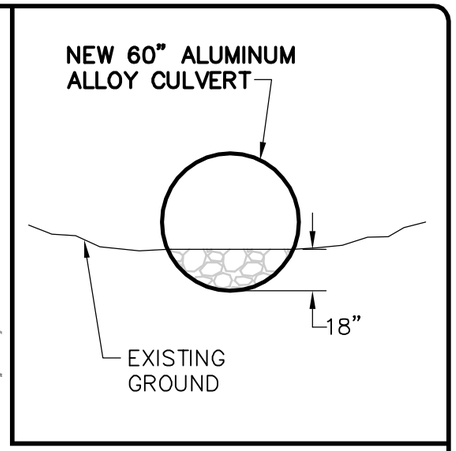
ORGANIZED VILLAGE OF KASAAN P.O. BOX 26-KASAAN KASAAN, ALASKA 99950	RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS ALASKA REGIONAL OFFICE	U.S. Department of Transportation Federal Highway Administration	KASAAN TO GOOSE CREEK ROAD PROJECT KASAAN, ALASKA	FISH PASSAGE CULVERT STA. 594+48 POWER POLE 98-99	DESIGNED BY: BLP DRAWN BY: JCS APPROVED BY: BLP DATE: OCTOBER 31, 2012 SCALE: HORZ: 1"=30' VERT: 1"=30'	FIGURE 9

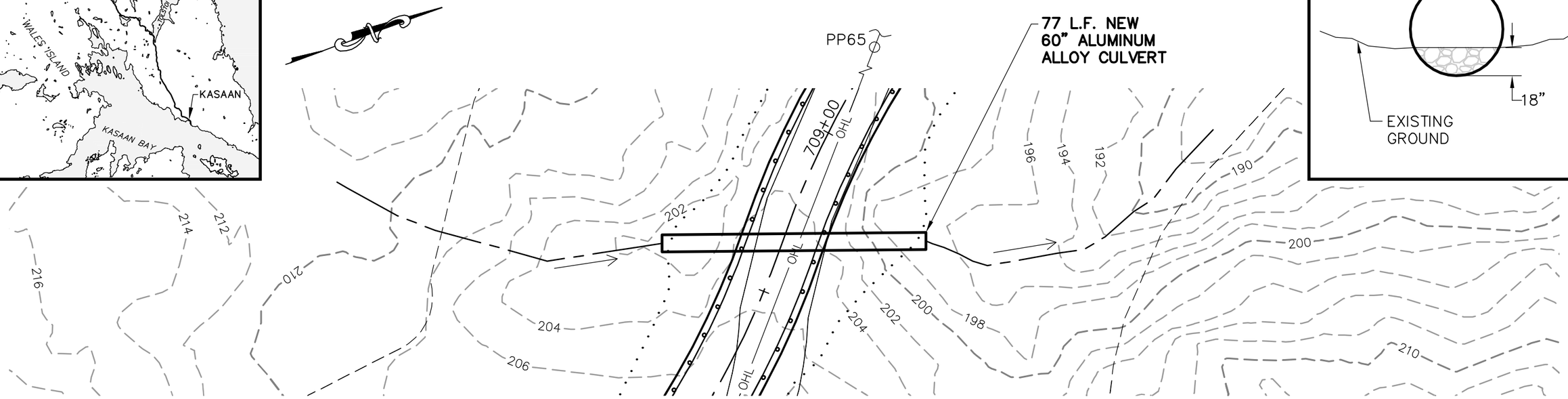


SEC 29, T71S, R84E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0030

RESIDENT STREAM

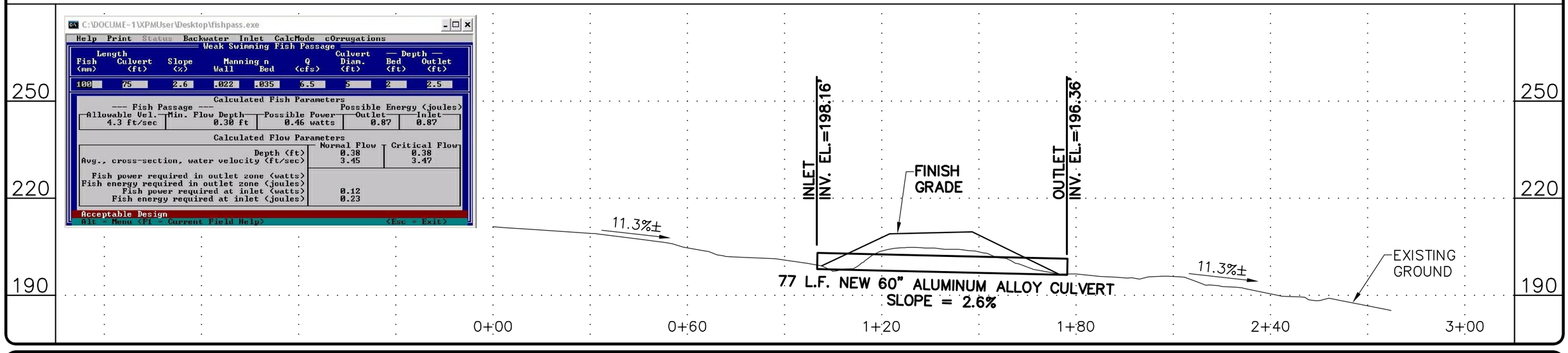




LEGEND

GRAPHIC SCALE
30 0 15 30
1 inch = 30 ft.

- CENTERLINE
- 310 CONTOUR (MAJOR)
- 312 CONTOUR (MINOR)
- DAYLIGHT LINES
- EXISTING RIGHT-OF-WAY
- EXISTING ROAD
- FLOW DIRECTION
- NEW CULVERT
- GUARDRAIL
- OHL OVERHEAD LINE
- PROPOSED ROAD
- PP65 ○ POWER POLE & NUMBER



ORGANIZED VILLAGE OF KASAAN
P.O. BOX 26-KASAAN
KASAAN, ALASKA 99950

RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
ALASKA REGIONAL OFFICE

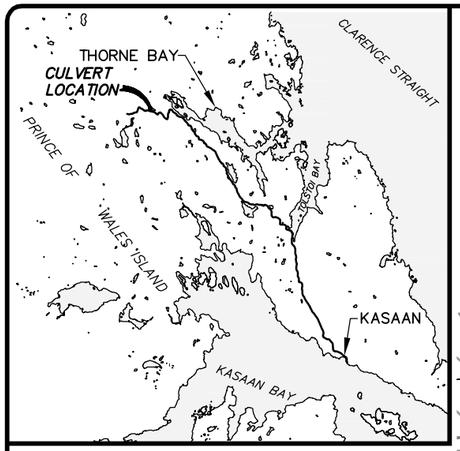
U.S. Department of Transportation
Federal Highway Administration

KASAAN TO GOOSE CREEK ROAD PROJECT
KASAAN, ALASKA

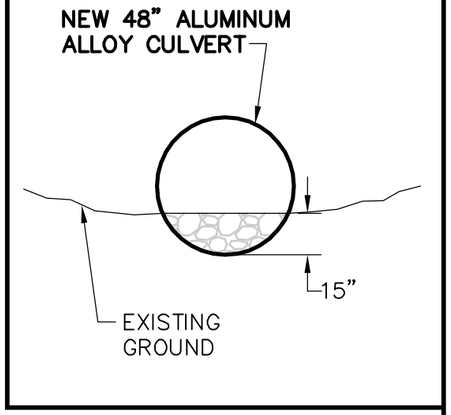
FISH PASSAGE CULVERT
STA. 708+65
POWER POLE 65-66

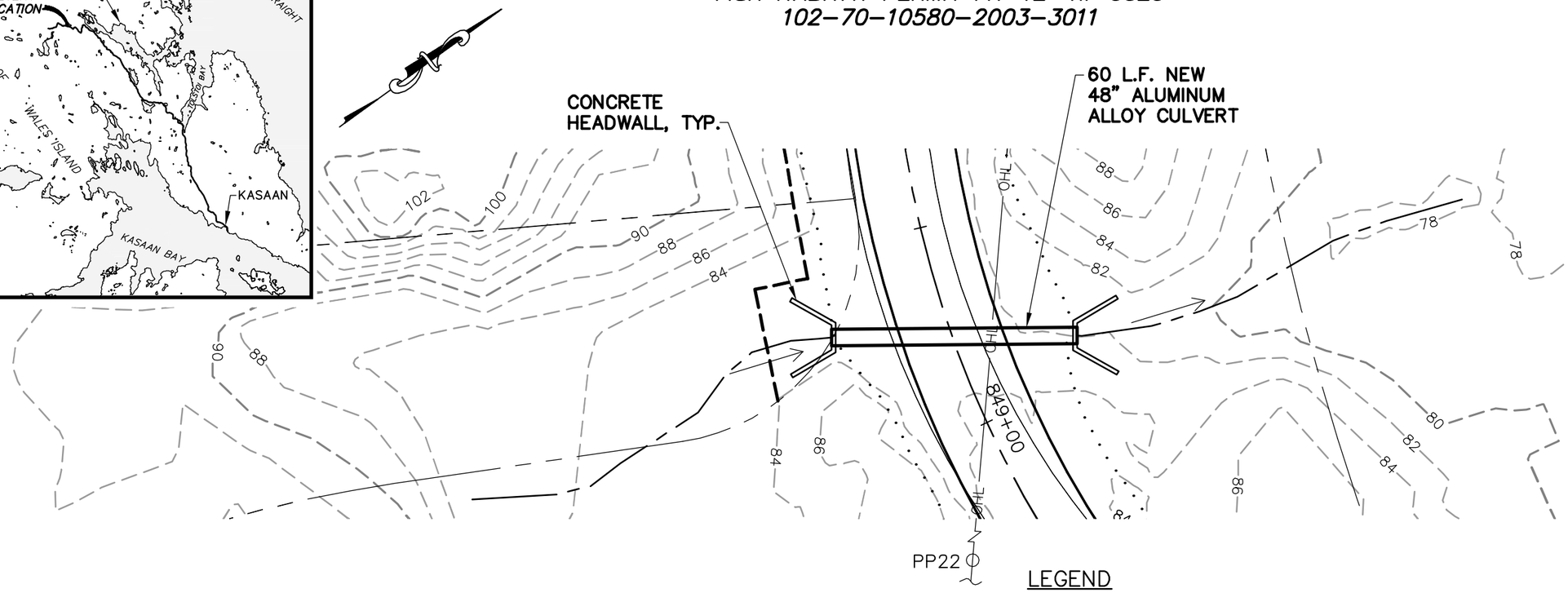
DESIGNED BY:	BLP
DRAWN BY:	JCS
APPROVED BY:	BLP
DATE:	OCTOBER 31, 2012
SCALE:	HORZ: 1"=30' VERT: 1"=30'

FIGURE 10



SEC 25, T71S, R83E, COPPER RIVER
FISH HABITAT PERMIT FH-12-VII-0029
102-70-10580-2003-3011

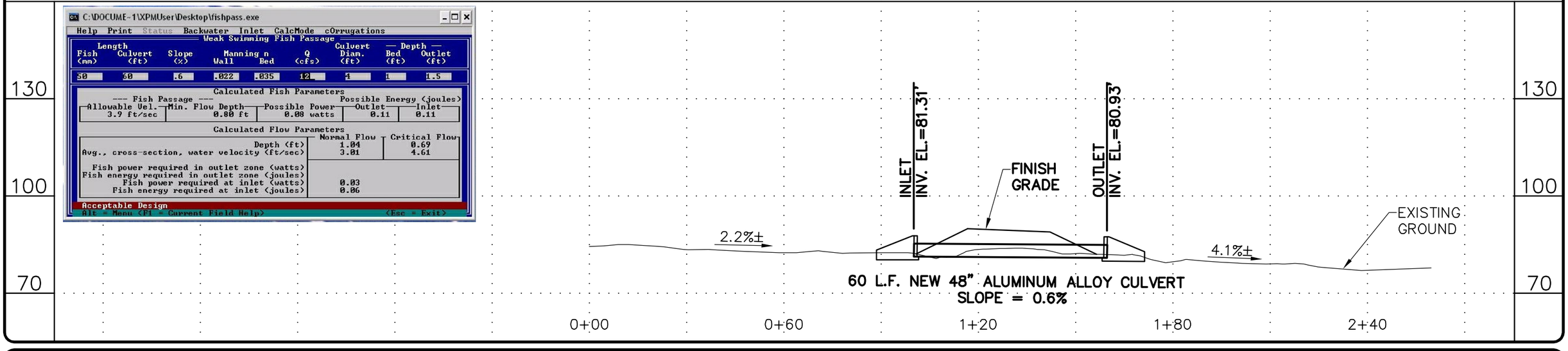




LEGEND

GRAPHIC SCALE
30 0 15 30
1 inch = 30 ft.

CENTERLINE
310 CONTOUR (MAJOR)
312 CONTOUR (MINOR)
DAYLIGHT LINES
EXISTING ROAD
FLOW DIRECTION
NEW CULVERT
OHL OVERHEAD LINE
PROPERTY LINE
PROPOSED ROAD
NEW RIGHT-OF-WAY
PP22 ○ POWER POLE & NUMBER



ORGANIZED VILLAGE OF KASAAN
P.O. BOX 26-KASAAN
KASAAN, ALASKA 99950

RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
ALASKA REGIONAL OFFICE

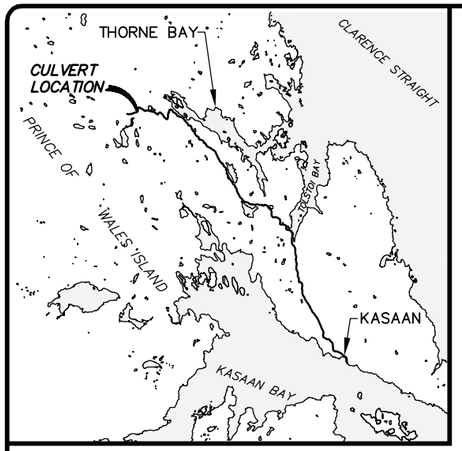
U.S. Department of Transportation
Federal Highway Administration

KASAAN TO GOOSE CREEK
ROAD PROJECT
KASAAN, ALASKA

FISH PASSAGE CULVERT
STA. 849+23
POWER POLE 21-22

DESIGNED BY:	BLP
DRAWN BY:	JCS
APPROVED BY:	BLP
DATE:	OCTOBER 31, 2012
SCALE:	HORZ: 1"=30' VERT: 1"=30'

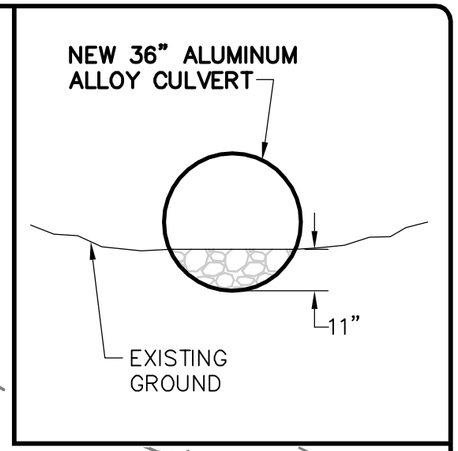
FIGURE 11

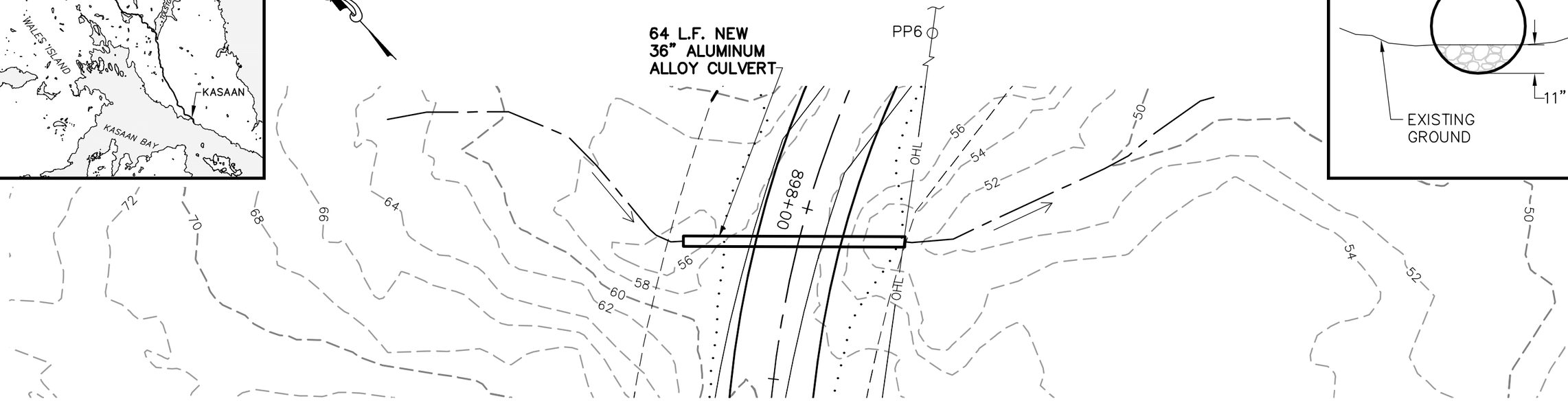


SEC 25, T71S, R83E, COPPER RIVER

FISH HABITAT PERMIT FH-12-VII-0028

UNCATALOGED

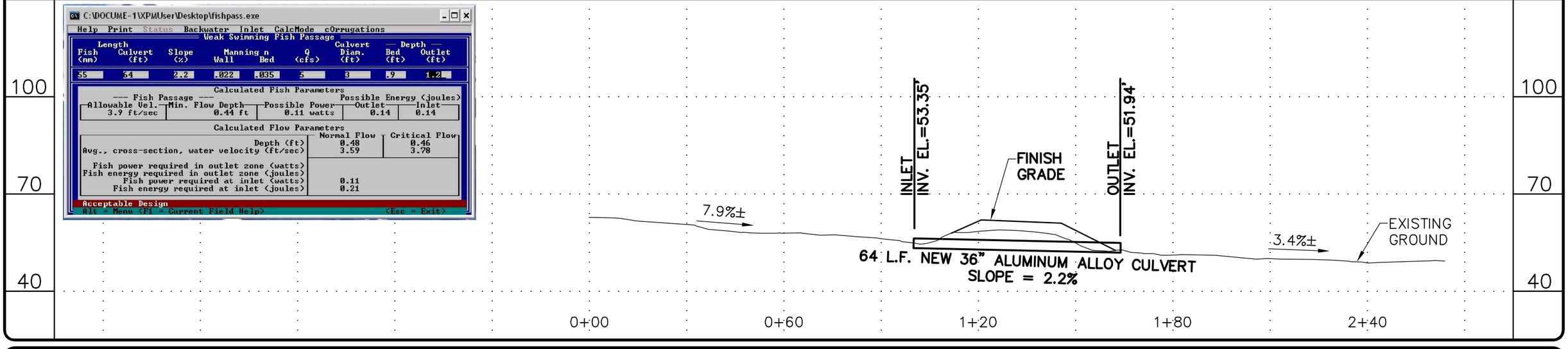




LEGEND

GRAPHIC SCALE
30 0 15 30
1 inch = 30 ft.

- CENTERLINE
- 310 CONTOUR (MAJOR)
- 312 CONTOUR (MINOR)
- DAYLIGHT LINES
- EXISTING ROAD
- FLOW DIRECTION
- NEW CULVERT
- OHL OVERHEAD LINE
- PROPERTY LINE
- PROPOSED ROAD
- PP6 ○ POWER POLE & NUMBER



ORGANIZED VILLAGE OF KASAAN P.O. BOX 26-KASAAN KASAAN, ALASKA 99950	RPKA Rodney P. Kinney Associates, inc. CONSULTING ENGINEERS & SURVEYORS	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS ALASKA REGIONAL OFFICE	U.S. Department of Transportation Federal Highway Administration	KASAAN TO GOOSE CREEK ROAD PROJECT KASAAN, ALASKA	FISH PASSAGE CULVERT STA. 898+10 POWER POLE 5-6	DESIGNED BY: BLP DRAWN BY: JCS APPROVED BY: BLP DATE: OCTOBER 31, 2012 SCALE: HORZ: 1"=30' VERT: 1"=30'

FIGURE 12

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
ALASKA REGION

Branch of Regional Archeology
3601 C Street, Suite 1100
Anchorage, Alaska 99503
(907) 271-4003

TO: SAM THOMAS
ORGANIZED VILLAGE OF KASAAN
P. O. BOX 26
KETCHIKAN, ALASKA 99950-0340

UNDERTAKING: Kasaan-Goose Creek Road Improvement Project (IRR Program)

AGENCY FINDINGS: No Historic Properties Affected AHRS SITES: No historic properties were identified

RECOMMENDATIONS: **PROCEED with the** Kasaan-Goose Creek Road Improvement Project

AREA OF POTENTIAL EFFECT (APE): Kasaan-Goose Creek Road alignment

IDENTIFICATION EFFORTS: Review of records of previous archeological surveys in the Kasaan area, Alaska Historical Resource Survey maintained by the State Office of History and Archaeology. Field work also included an on the ground archeological survey and an on the ground historic structures survey.

CONSULTED PARTIES: Organized Village of Kasaan (the tribe), Alaska State Historic Preservation Officer (SHPO), and the Bureau of Indian Affairs (BIA).

MANAGEMENT RECOMMENDATIONS: BIA's recommendation to proceed is based on two reviews for historic properties in and around the APE. An onsite archeological field investigation was conducted in June of 2008 and June of 2009 by Walking Dog Archaeology with a finding of no historic properties affected. The final archeological survey report titled *Archaeological Survey of the Goose Creek to Kasaan Road*, 2010 was prepared by Mark E. Pipkin. Also, the *Historic Structures Survey Report for the Kasaan-Goose Creek Road Improvement Project Kasaan, Alaska*, August 2010 was prepared by Gerald Gotschall of NorthWind Architects, LLC. These reports support a finding of no historic properties affected within the APE Goose Creek to Kasaan Road. The Bureau of Indian Affairs (BIA) is issuing a finding of "no historic properties affected" for the proposed Kasaan-Goose Creek Road Improvement Project (Indian Reservation Roads Program). For the current project the BIA is not requiring any archeological monitoring during project construction. Any modifications to the current project description may require additional Section 106 considerations.

In compliance with Section 106 of the National Historic Preservation Act (16 USC 470*f*) of 1966 and 36CFR§800, the Bureau of Indian Affairs, Alaska Regional Archaeology, is recommending the Kasaan-Goose Creek Road Improvement Project to proceed. This recommendation applies only to the current project. Any additional work outside of the current project area will require additional Section 106 Review; any changes to the project design will require further Section 106 Review (in accordance with 36 CFR 800.4). The construction contract will include the following language: ***If previously unknown archeological materials or human remains are discovered during the course of construction, all activities will cease in the immediate area of the finds pending further recommendations from the BIA Regional Archeologist (36 CFR §800.13[b][3]) in consultation with the Alaska SHPO and the Organized Village of Kasaan, the tribe.***

Ricky Hoff — January 13, 2011
Ricky Hoff, Date
Regional Archeologist

cc: Glenn Miller, Transportation, **Bureau of Indian Affairs**, Alaska Region