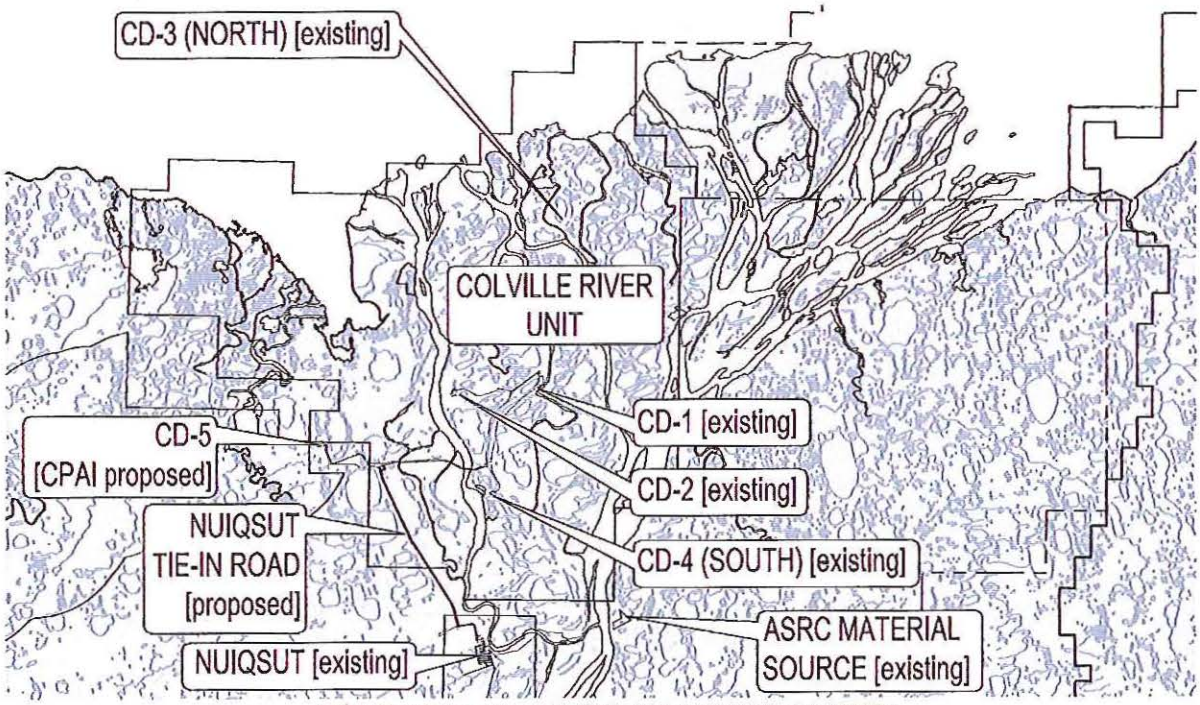
ALASKA VICINITY MAP



NUIQSUT TIE-IN ROAD VICINITY MAP

SCALE IN MILES

3 0 3 6 9

P | N | D
ENGINEERS, INC.

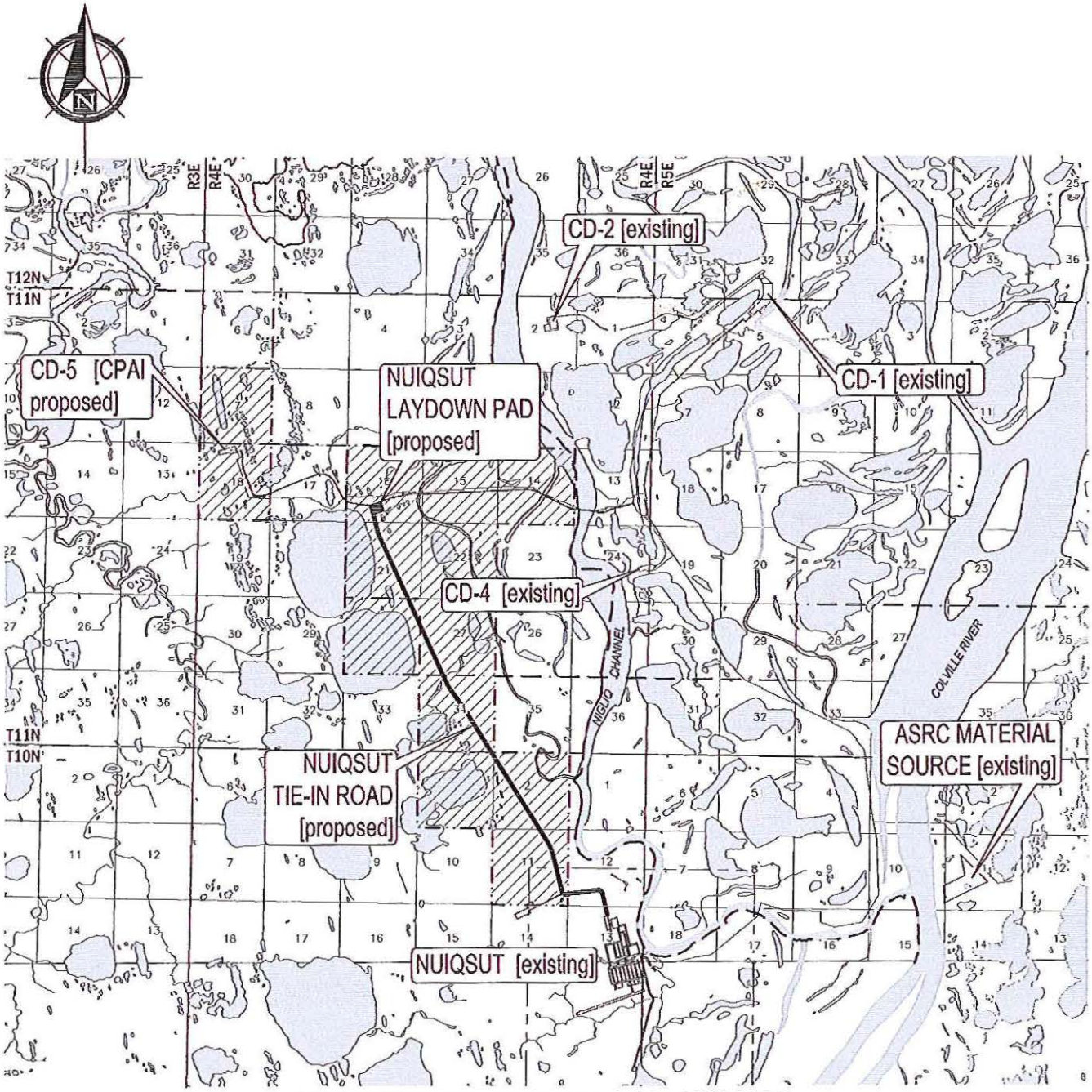
PURPOSE: CONSTRUCT A ROAD ACCESS FOR THE KUUKPIK CORPORATION	APPLICANT: KUUKPIK CORPORATION REFERENCE: 2013	PROPOSED: NUIQSUT TIE-IN ROAD CONSTRUCTION POA-2013-68 Colville River
DATUM: BPMSL, NAD83 ASP ZONE 4	LOCATION: T10N & 11N, R4E UMIAT MERIDIAN	IN: NEAR/AT: NUIQSUT COUNTY: ANS BOROUGH STATE: ALASKA
ADJACENT PROPERTY OWNERS: 1. KUUKPIK VILLAGE CORP	ADDRESS: 801 B STREET SUITE 300 ANCHORAGE, AK 99501	SHEET 1 of 16 2-19-13

KUUKPIK VILLAGE CORPORATION
P.O. BOX 89187
NUIQSUT, AK 99789
(907) 480-6220
ATTN: ISAAC NUKAPIGAK

P | N | D
ENGINEERS, INC.

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
AT:	ALASKA
SHEET	2 of 16 2-19-13

NUIQSUT TIE-IN ROAD ADJACENT LAND OWNER



NUIQSUT TIE-IN ROAD LOCATION MAP

SCALE IN MILES

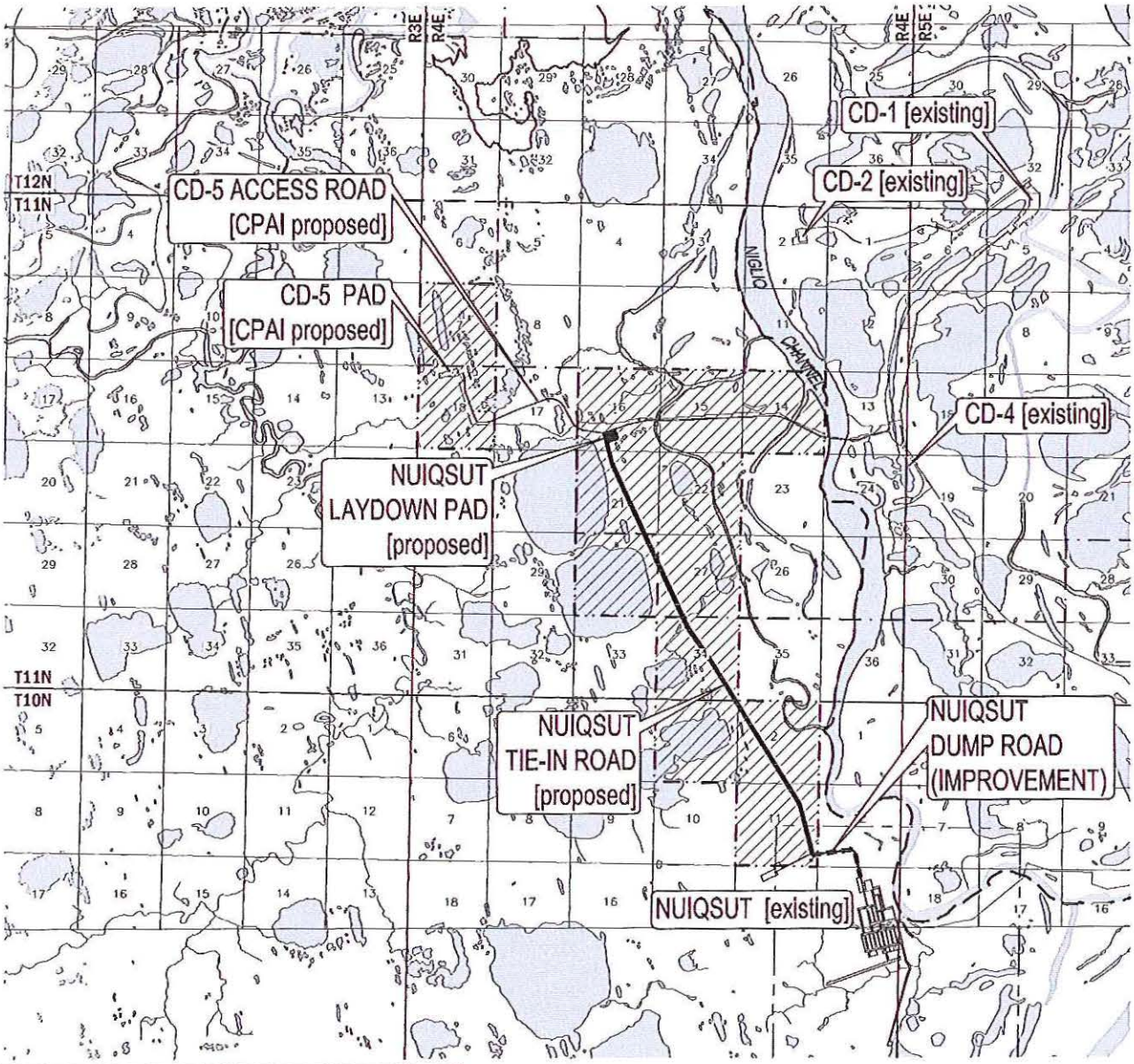
1 0 1 2 3

NATIONAL PETROLEUM RESERVE-ALASKA BOUNDARY
COLVILLE RIVER OIL & GAS UNIT BOUNDARY
NUIQSUT MUNICIPAL BOUNDARY
RESOURCE DEVELOPMENT DISTRICT

THIS MAP PROJECTION IS BASE UPON ALASKA STATE PLANE, NAD 83. THIS MAP IS BASED ON DATA PROVIDED BY THE U.S. GEOLOGICAL SURVEY, THE ALASKA DEPARTMENT OF NATURAL RESOURCES, AND CONOCO PHILLIPS ALASKA, INC.

P | N | D ENGINEERS, INC.

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68	Colville River
AT:	ALASKA
SHEET	3 of 16 2-19-13



NUIQSUT	
TIE-IN ROAD LENGTH	5.8 MILES
TIE-IN ROAD FOOTPRINT	38.7 ACRES
TIE-IN ROAD FILL QUANTITY	300,000 CY
DUMP ROAD LENGTH	0.8 MILES
DUMP ROAD IMPROVEMENT FOOTPRINT	1.3 ACRES
DUMP ROAD IMPROVEMENT FILL QUANTITY	35,000 CY
LAYDOWN PAD FOOTPRINT	11.0 ACRES
LAYDOWN PAD FILL QUANTITY	120,000 CY

SCALE IN MILES

1 0 1 2 3

P | N | D

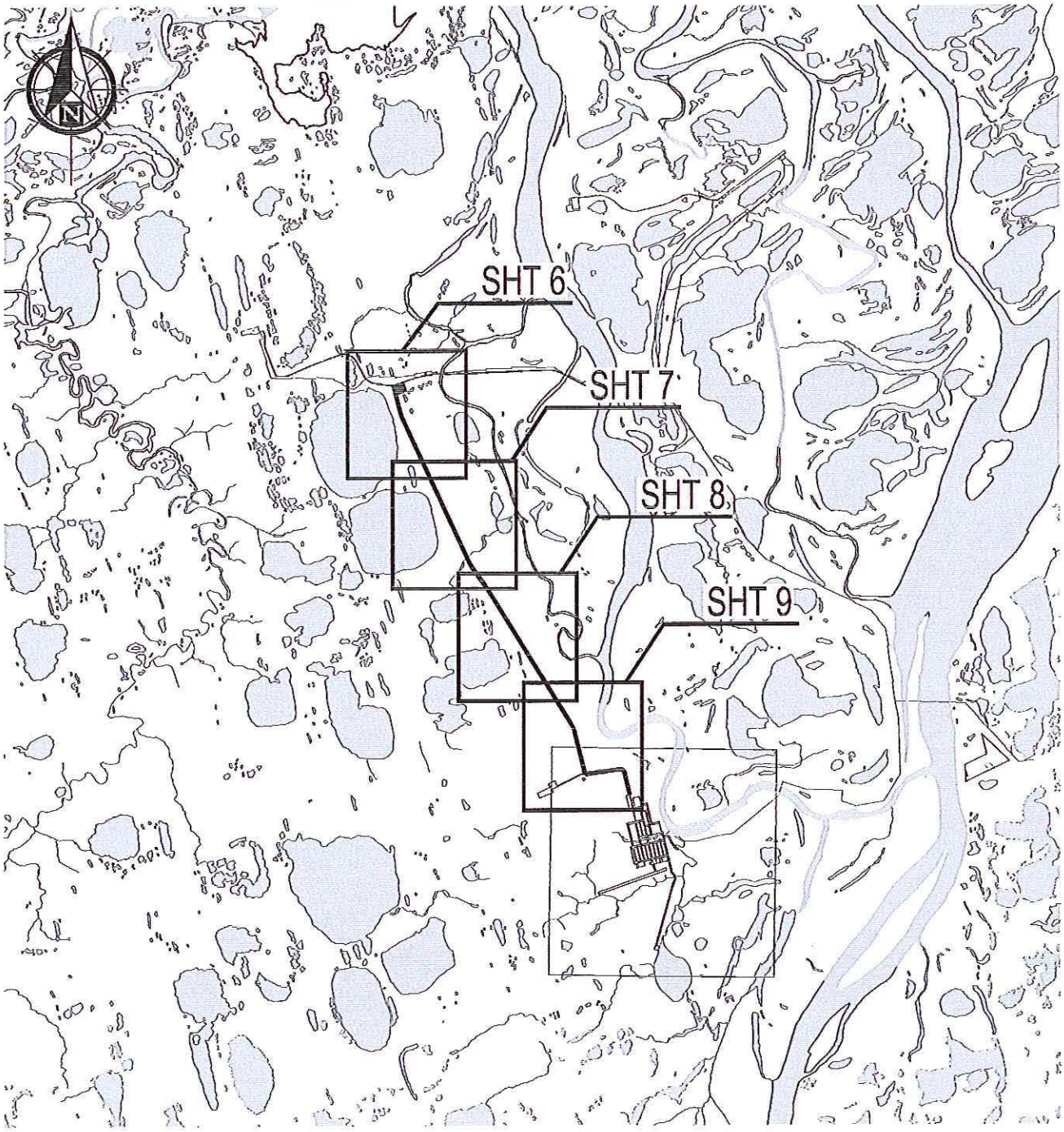
POA-2013-68 Colville River

NATIONAL PETROLEUM RESERVE-ALASKA BOUNDARY
COLVILLE RIVER OIL & GAS UNIT BOUNDARY
NUIQSUT MUNICIPAL BOUNDARY
RESOURCE DEVELOPMENT DISTRICT

THIS MAP PROJECTION IS BASED UPON ALASKA STATE PLANE, NAD 83. THIS MAP IS BASED ON DATA PROVIDED BY THE U.S. GEOLOGICAL SURVEY, THE ALASKA DEPARTMENT OF NATURAL RESOURCES, AND CONOCO PHILLIPS ALASKA, INC.

NUIQSUT TIE-IN ROAD OVERVIEW

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
AT:	ALASKA
SHEET	4 of 16 2-19-13



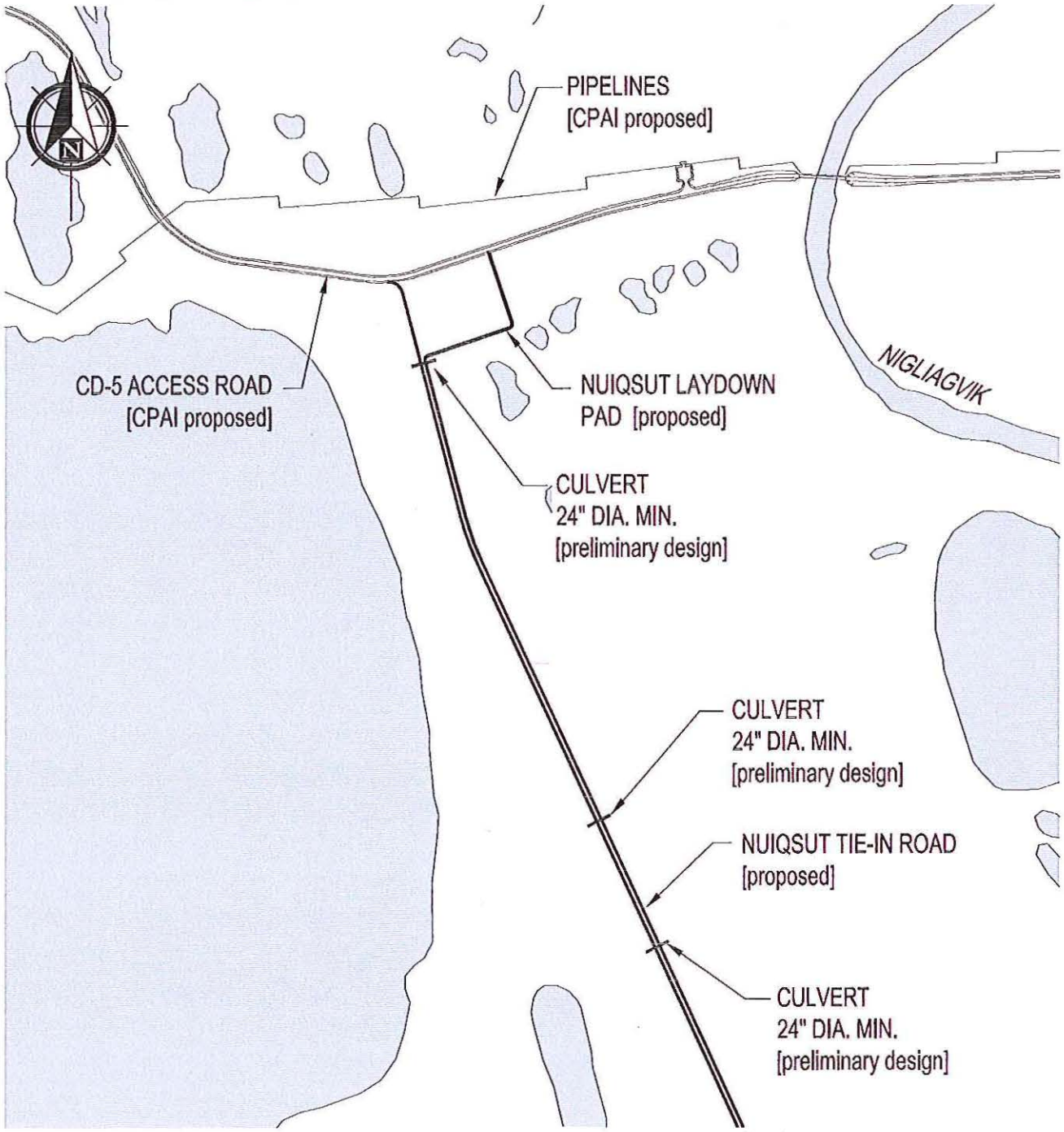
SCALE IN MILES

1 0 1 2 3

PND ENGINEERS, INC.

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68	Colville River
AT:	ALASKA
SHEET	5 of 16 2-19-13

PROPOSED NUIQSUT TIE-IN ROAD KEY MAP



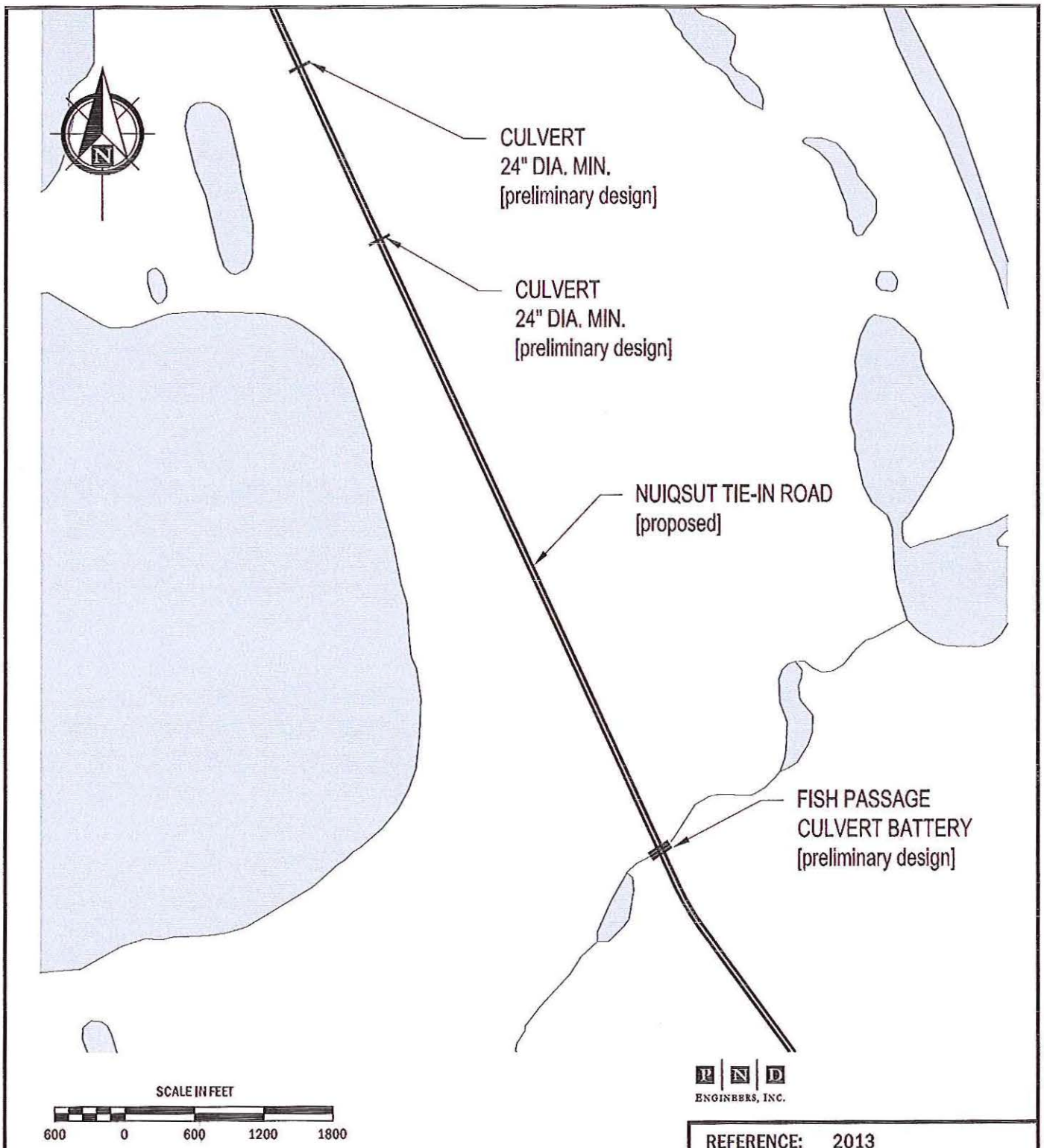
P | N | D
ENGINEERS, INC.

SCALE IN FEET

600 0 600 1200 1800

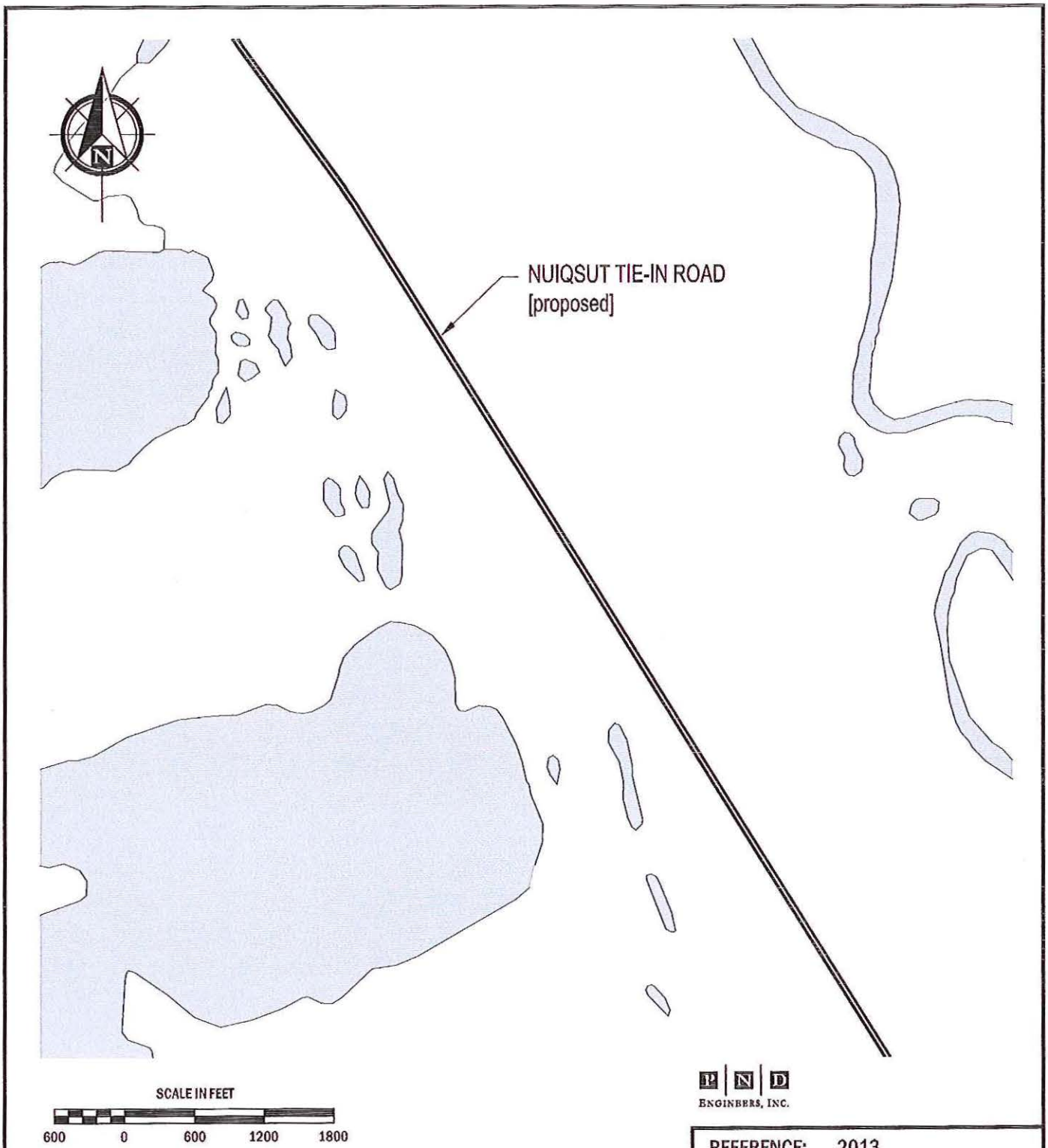
REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
	POA-2013-68 Colville River
AT:	ALASKA
SHEET	6 of 16 2-19-13

NUIQSUT TIE-IN ROAD 1 OF 4



REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68	Colville River
AT:	ALASKA
SHEET	7 of 16 2-19-13

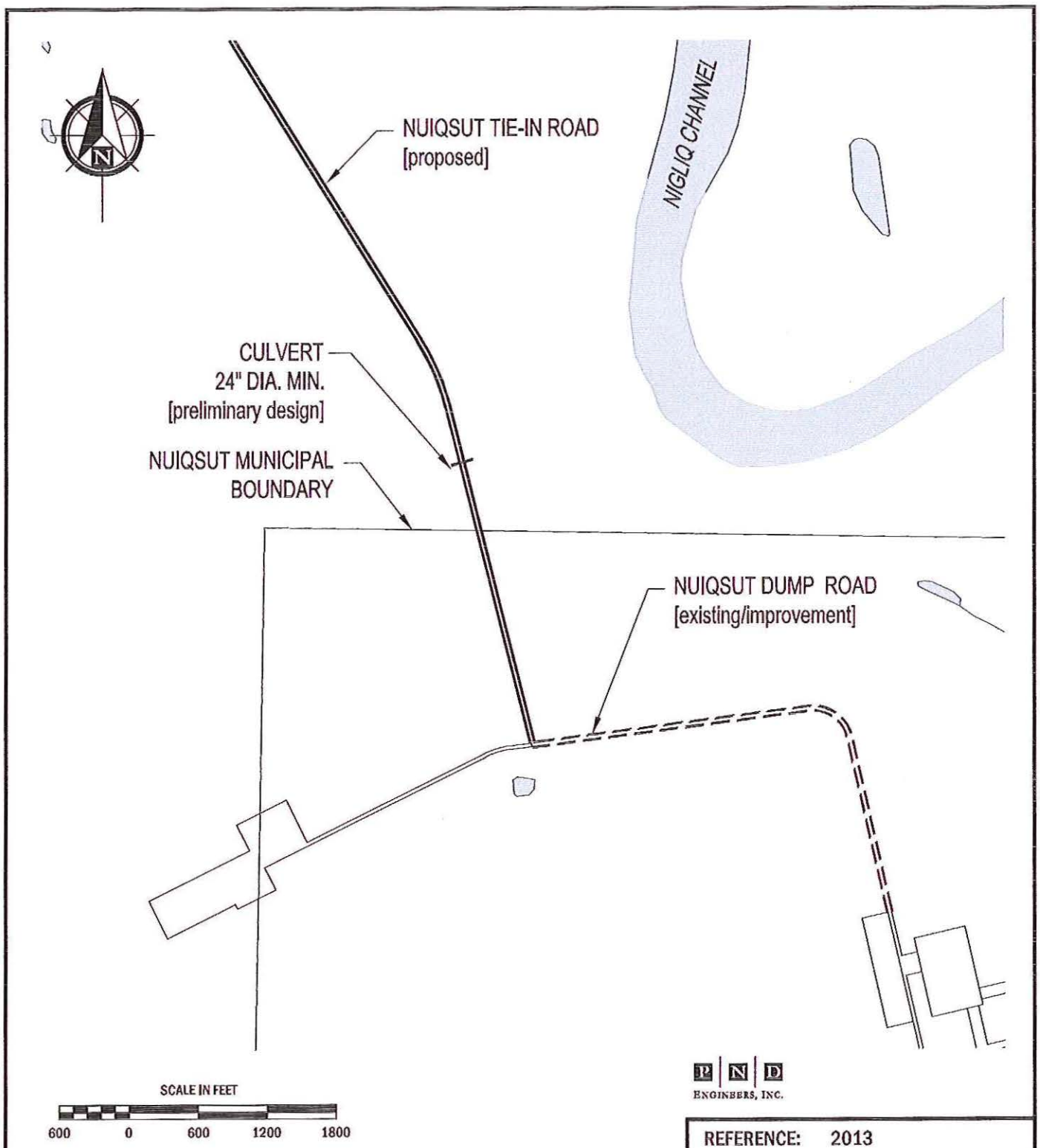
NUIQSUT TIE-IN ROAD 2 OF 4



P | N | D
ENGINEERS, INC.

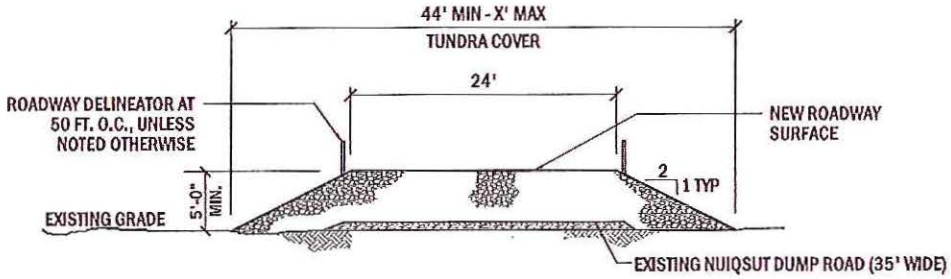
REFERENCE: 2013
APPLICANT: KUUKPIK CORPORATION
PROPOSED: NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68 Colville River
AT: ALASKA
SHEET 8 of 16 2-19-13

NUIQSUT TIE-IN ROAD 3 OF 4



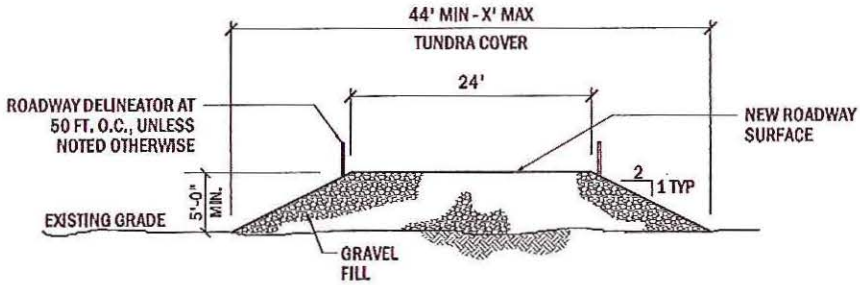
REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68	Colville River
AT:	ALASKA
SHEET	9 of 16 2-19-13

NUIQSUT TIE-IN ROAD 4 OF 4



NUIQSUT DUMP ROAD IMPROVEMENT SECTION

NOT TO SCALE



NUIQSUT TIE-IN ROAD SECTION

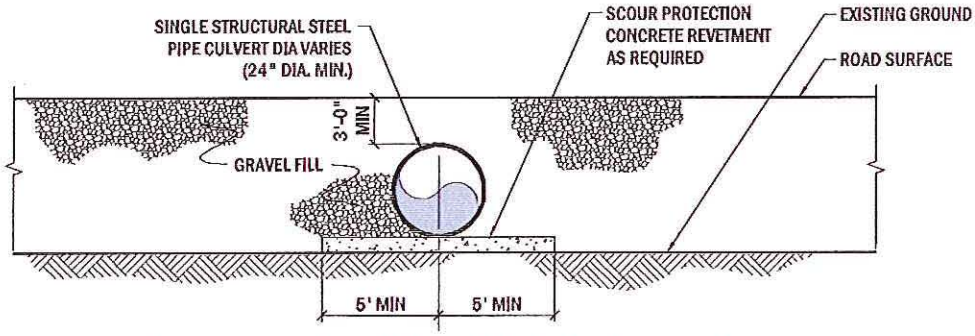
NOT TO SCALE

NOTE:
TOE TO TOE DIMENSIONS ARE
BASED ON A MINIMUM FILL DEPTH

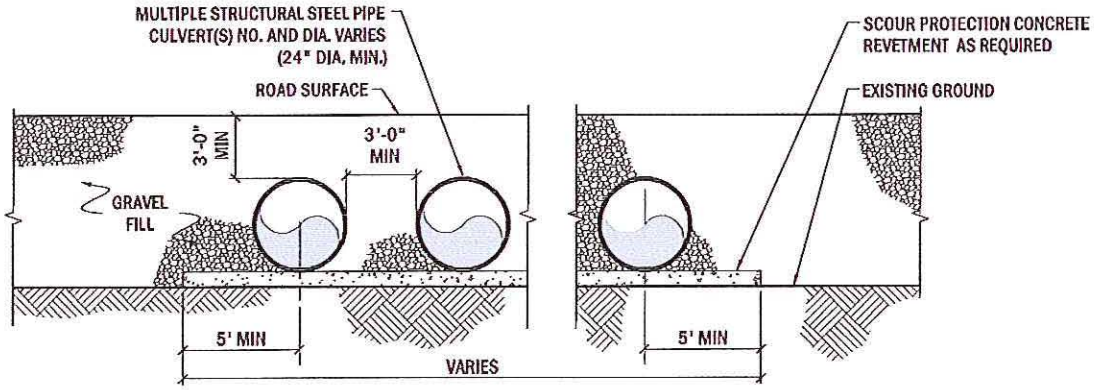
P | N | D
ENGINEERS, INC.

REFERENCE: 2013
APPLICANT: KUUKPIK CORPORATION
PROPOSED: NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68 Colville River
AT: ALASKA
SHEET 10 of 16 2-19-13

NUIQSUT TIE-IN ROAD PROPOSED TYPICAL SECTIONS

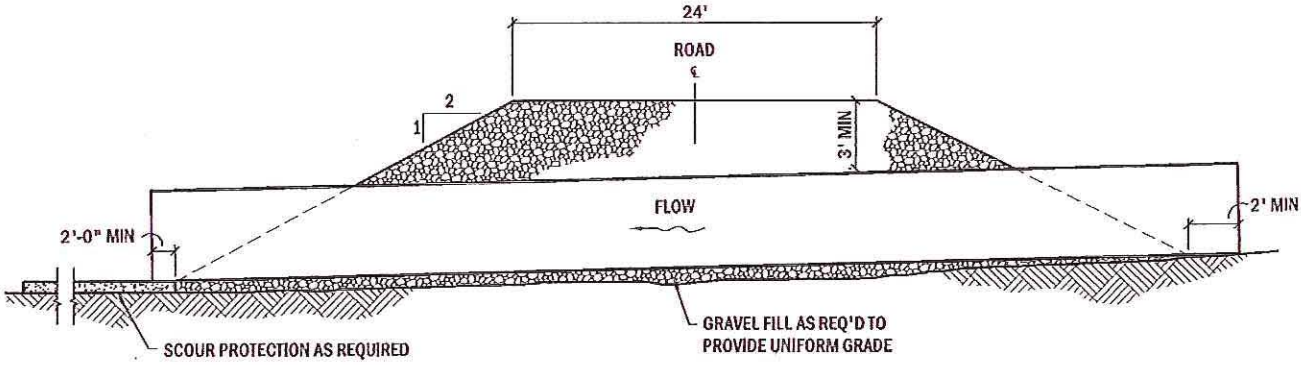


PROPOSED CULVERT(S) ELEVATION



TYPICAL MULTIPLE CULVERTS ELEVATION

NOT TO SCALE



PROPOSED CULVERT SECTION

PND ENGINEERS, INC.

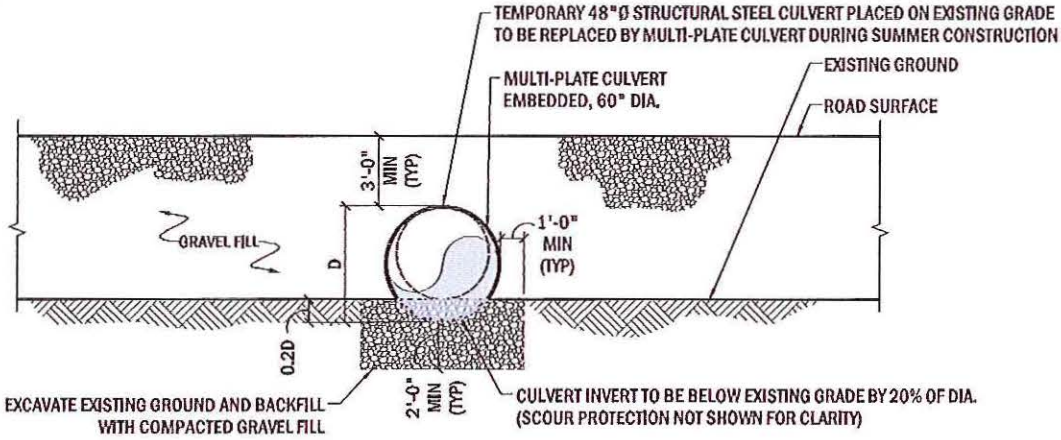
PURPOSE:
PLACE FILL AND CULVERT AS PART OF THE ROAD CONSTRUCTION

DATUM:
BRITISH PETROLEUM MEAN SEA LEVEL

ADJACENT PROPERTY OWNERS:
KUUKPIK CORPORATION

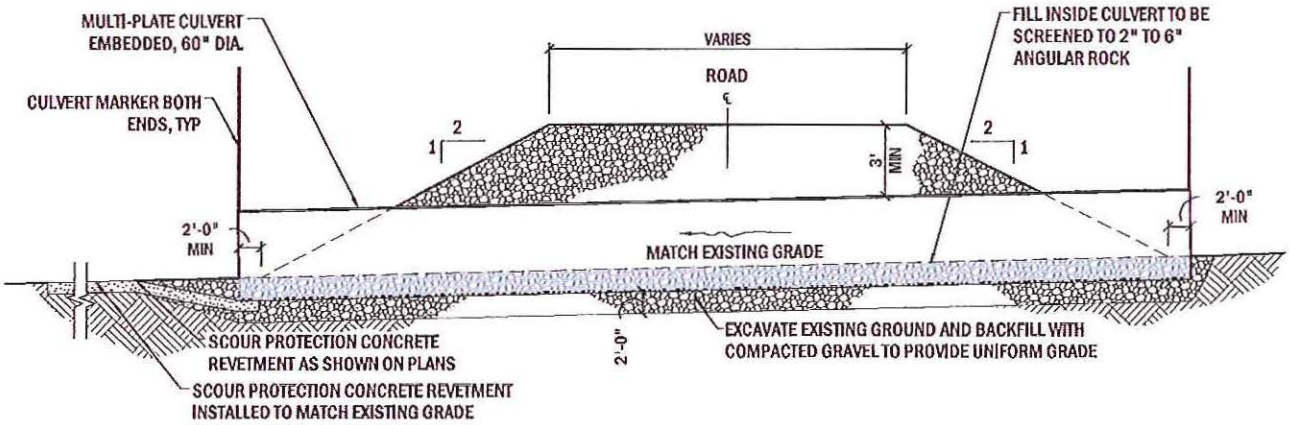
NUIQSUT TIE-IN ROAD PROPOSED TYPICAL CULVERT CROSS SECTIONS

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68	Colville River
AT:	ALASKA
SHEET	11 of 16 2-19-13



TYPICAL EMBEDDED CULVERT DETAIL

NOT TO SCALE



TYPICAL EMBEDDED CULVERT SECTION

NOT TO SCALE

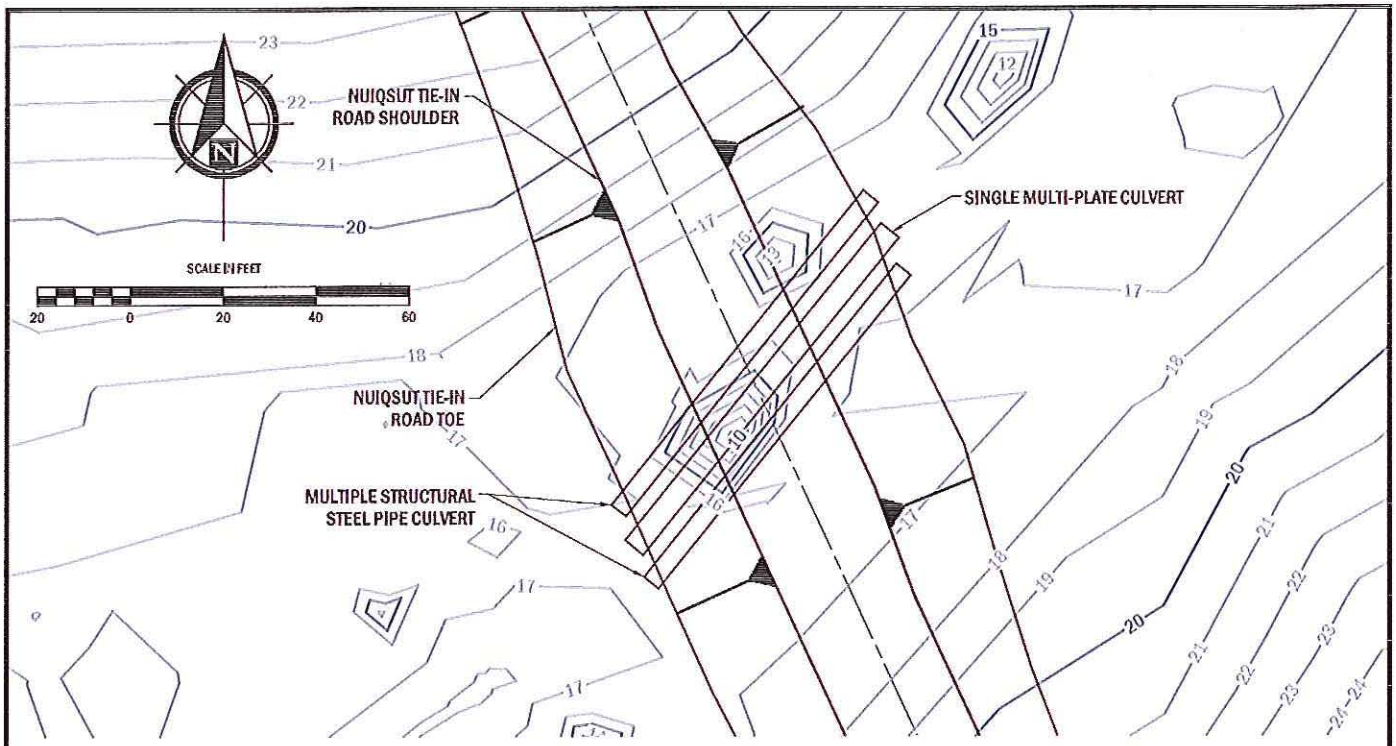
P | N | D
ENGINEERS, INC.

NOTE:
MULTI-PLATE CULVERT TO BE INSTALLED IN SUMMER ONLY. A TEMPORARY 48"Ø STRUCTURAL STEEL PIPE WILL BE PLACED ON EXISTING GRADE AT MULT-PLATE CULVERT LOCATION DURING WINTER GRAVEL PLACEMENT TO PROVIDE DRAINAGE DURING SPRING BREAKUP PRIOR TO MULTI-PLATE CULVERT INSTALLATION.

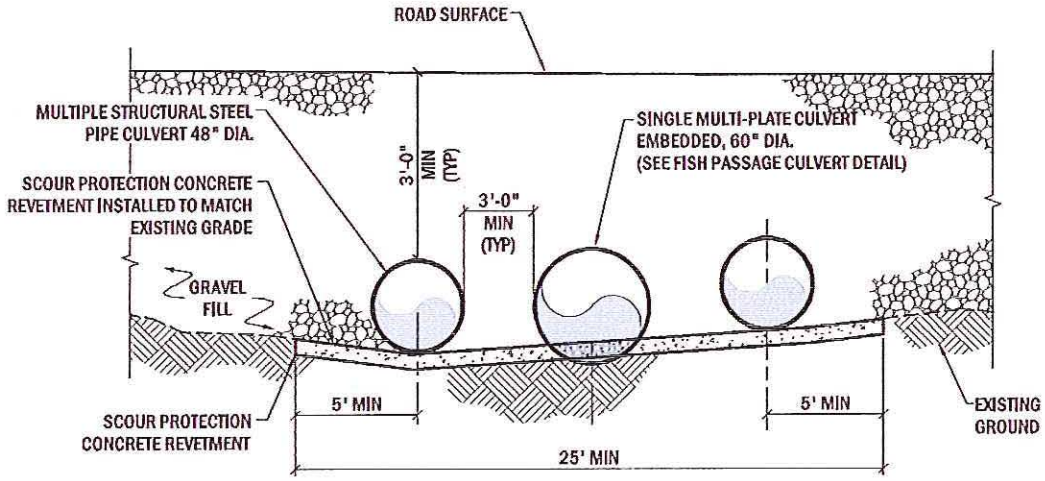
DESIGN SHOWN IS PRELIMINARY

TYPICAL FISH PASSAGE CULVERT SECTIONS

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
	POA-2013-68 Colville River
AT:	ALASKA
SHEET 11A of 16	2-19-13



FISH PASSAGE CULVERT BATTERY PLAN



FISH PASSAGE CULVERT BATTERY ELEVATION

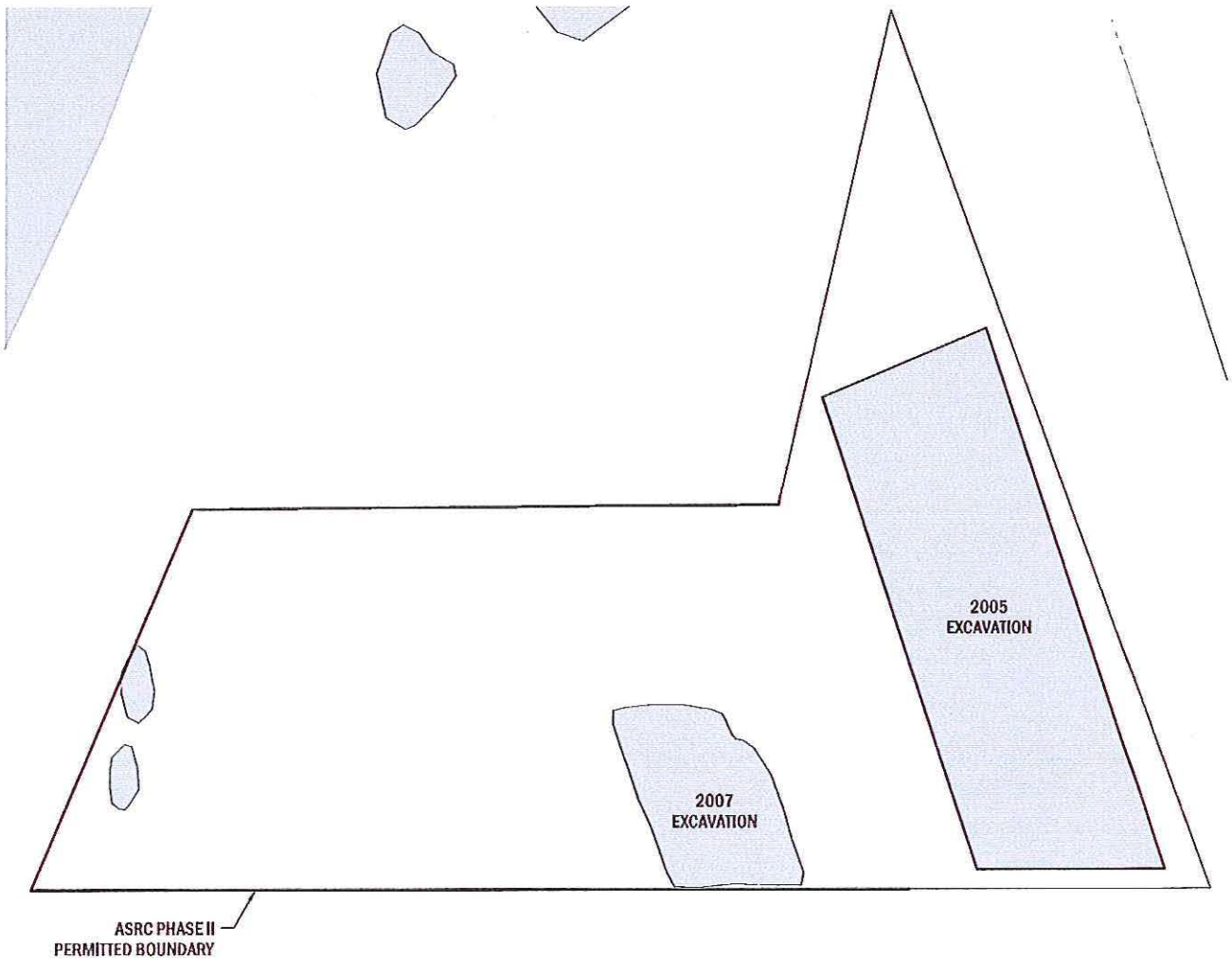
1H:2V

P | N | D
ENGINEERS, INC.

NOTES:
DESIGN SHOWN IS PRELIMINARY
SEE SHEET 11A FOR EMBEDDED CULVERT DETAILS

FISH PASSAGE CULVERT PLAN AND CROSS-SECTION

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68	Colville River
AT:	ALASKA
SHEET 11B of 16	2-19-13



ASRC MINE SITE

NOTE:
PIT LAYOUT IS FOR INFORMATIONAL PURPOSES ONLY. THE FINAL CONFIGURATION WILL DEPEND ON ADDITIONAL EVALUATION OF GEOTECHNICAL INFORMATION AND WILL CONFORM TO PERMIT STIPULATIONS.

SCALE IN FEET

250 0 250 500 750

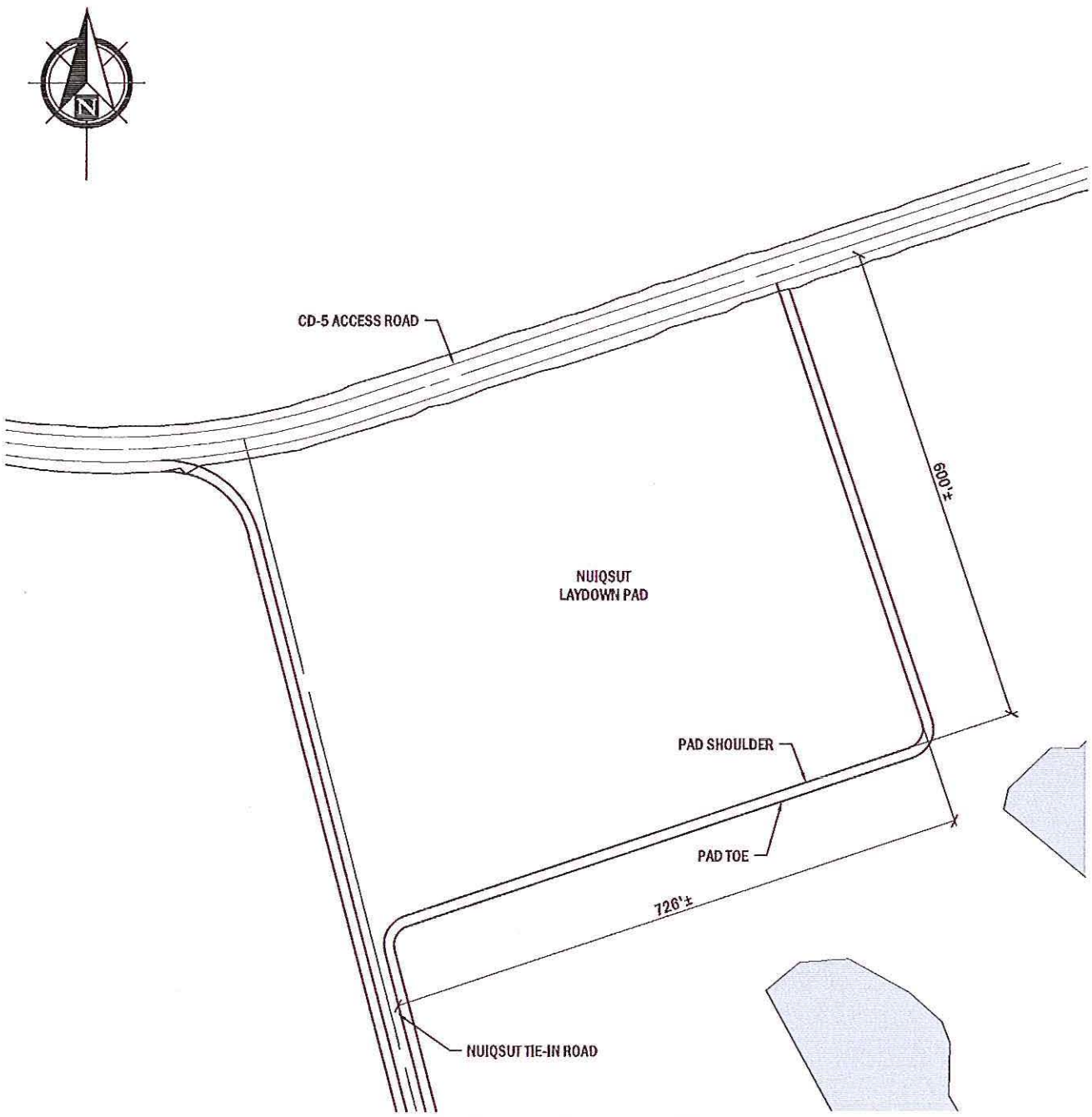
ESTIMATED QUANTITIES REQUIRED

SOIL AND GRAVEL:	455,000 CY
OVERBURDEN:	569,000 CY
REQUIRED FOOT PRINT:	18.5 ACRES
FOOT PRINT BEING PERMITTED:	52 ACRES

P | N | D
ENGINEERS, INC.

REFERENCE: 2013
APPLICANT: KUUKPIK CORPORATION
PROPOSED: NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68 Colville River
AT: ALASKA
SHEET 12 of 16 2-19-13

PROPOSED ASRC PIT GRAVEL SOURCE



NUIQSUT LAYDOWN PAD

JPN ENGINEERS, INC.

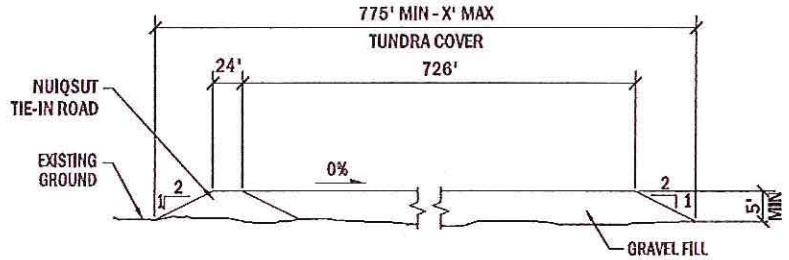
NUIQSUT LAYDOWN PAD QUANTITIES	
AREA OF TUNDRA COVER	11.0 ACRES
QUANTITY OF GRAVEL	120,000 CY

AVERAGE DEPTH OF 6.75'

NOTE:
MINIMUM GRAVEL DEPTH 5.0'
WITH 2:1 FILL SLOPES

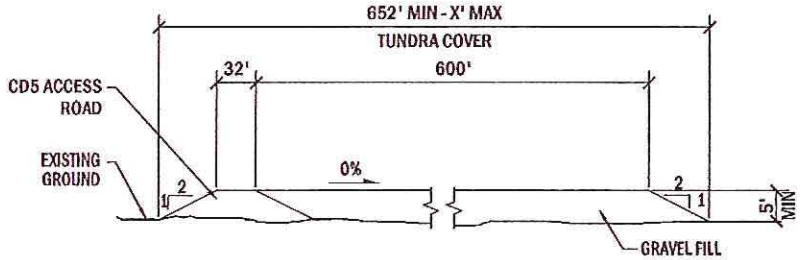
SCALE IN FEET
100 0 100 200 300

REFERENCE: 2013
APPLICANT: KUUKPIK CORPORATION
PROPOSED: NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68 Colville River
AT: ALASKA
SHEET 13 of 16 2-19-13



NUIQSUT LAYDOWN PAD TYPICAL LONGITUDINAL SECTION

NOT TO SCALE



NUIQSUT LAYDOWN PAD TYPICAL TRANSVERSE SECTION

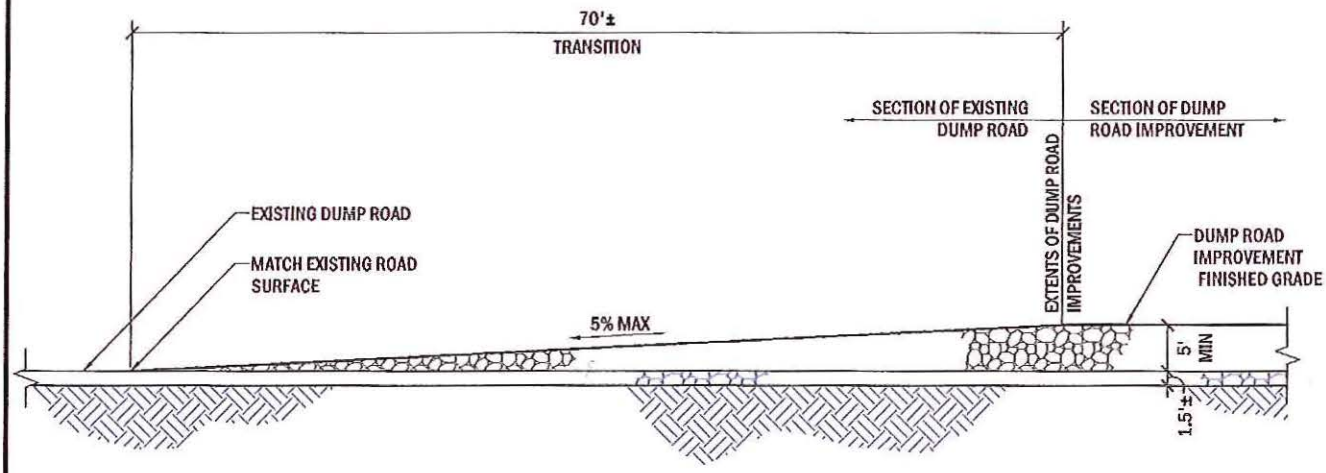
NOT TO SCALE

P | N | D
ENGINEERS, INC.

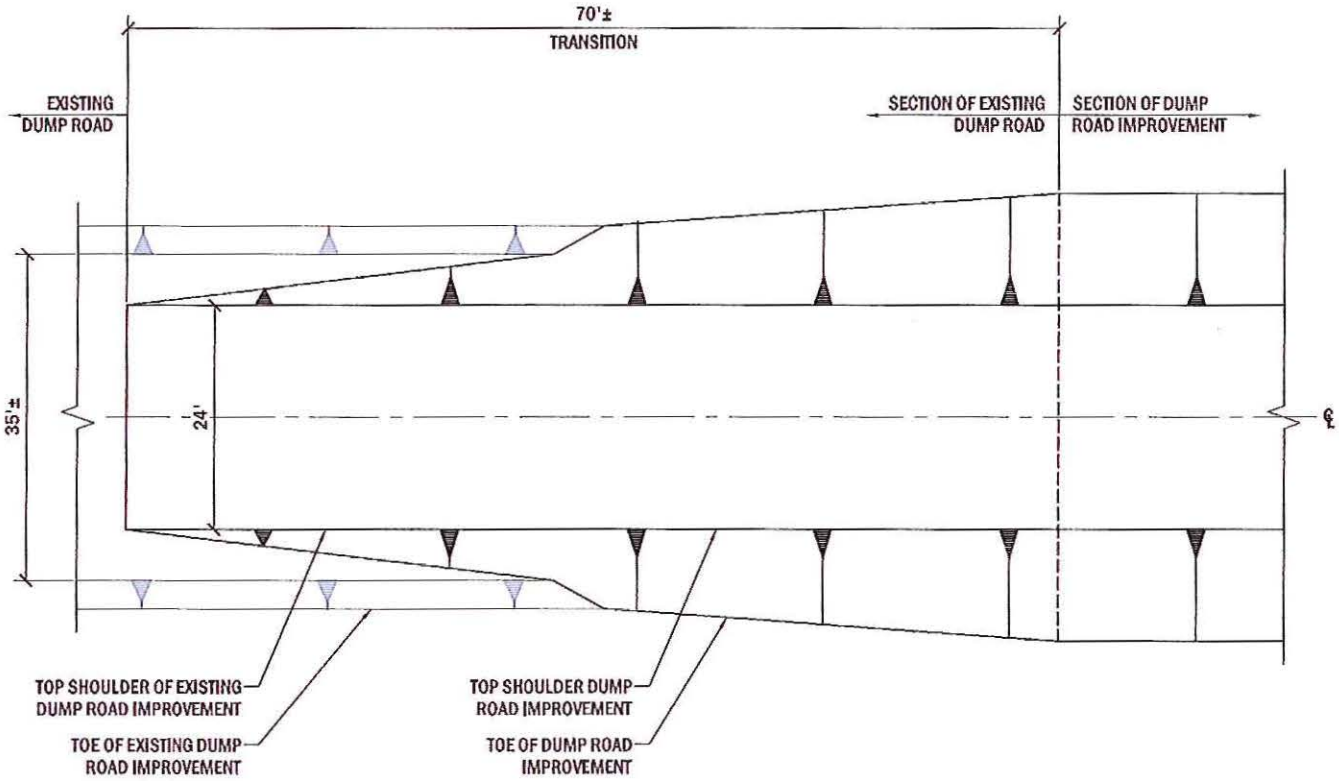
NOTE:
TOE TO TOE DIMENSIONS ARE
BASED ON A MINIMUM FILL DEPTH

NUIQSUT LAYDOWN PAD SECTIONS

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
	POA-2013-68 Colville River
AT:	ALASKA
SHEET	14 of 16 2-19-13



TRANSITION SECTION

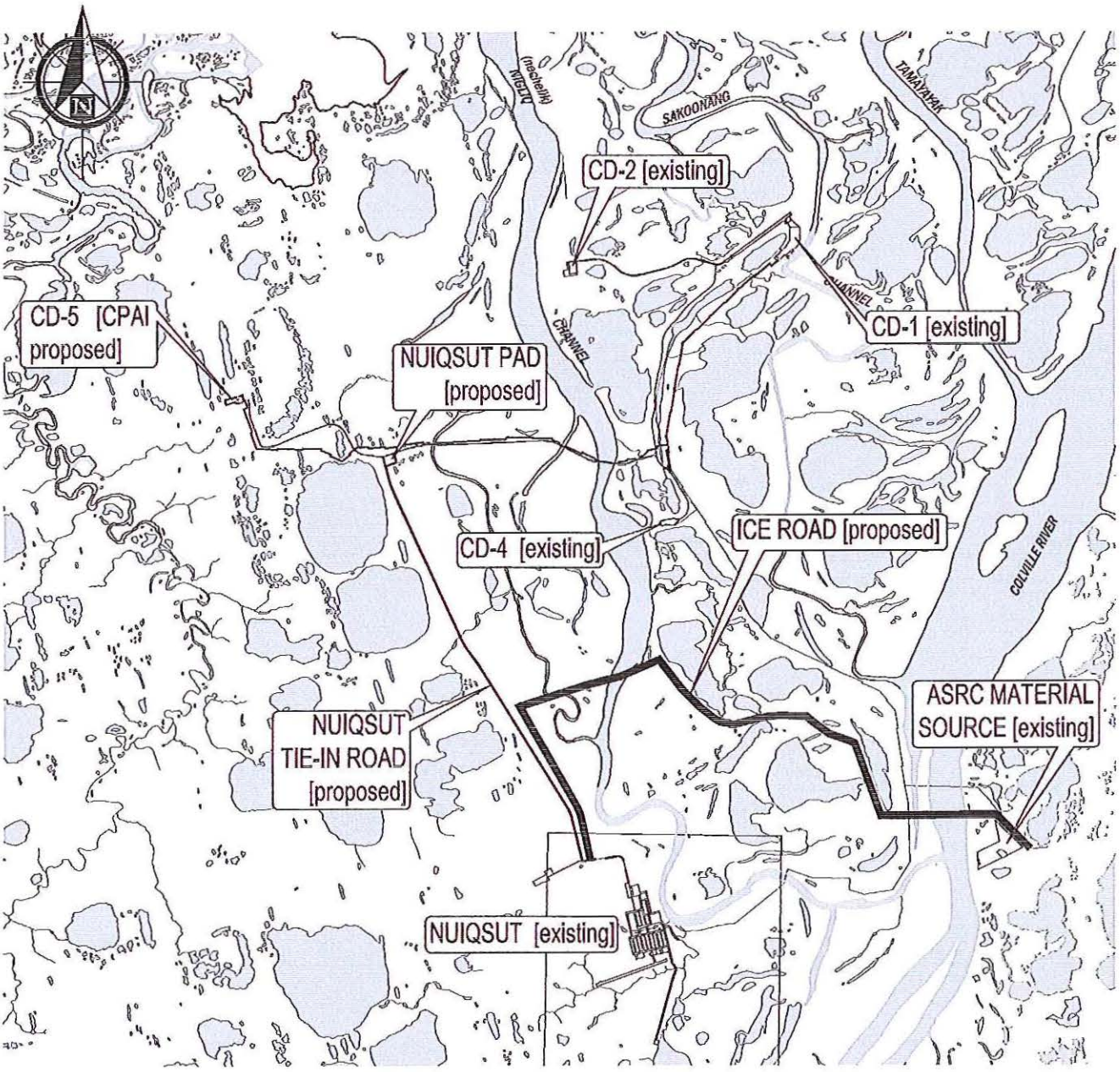


TRANSITION PLAN

P | N | D ENGINEERS, INC.

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68	Colville River
AT:	ALASKA
SHEET	15 of 16 2-19-13

DUMP ROAD IMPROVEMENT TRANSITION DETAILS



SCALE IN MILES

1 0 1 2 3

NOTE:
ICE ROAD LOCATIONS MAY VARY

P N D ENGINEERS, INC.

REFERENCE:	2013
APPLICANT:	KUUKPIK CORPORATION
PROPOSED:	NUIQSUT TIE-IN ROAD CONSTRUCTION
POA-2013-68	Colville River
AT:	ALASKA
SHEET	16 of 16 2-19-13

NUIQSUT PROPOSED 2013-14 CONSTRUCTION ICE ROADS