

TRANS-ALASKA PIPELINE

Project H113 (portion near Thompson Pass) – 2013 Cathodic Protection Upgrades *Permit Plan (April, 2013)*

GENERAL PROJECT DESCRIPTION

Project H113 plans to make cathodic protection (CP) improvements on more than 14 sections of the TAPS mainline pipe in 2013. The sites which will receive significant improvements are indicated on the *Permit Analysis* table while many more sites will receive minor upgrades. The purpose of the project is to install new Anodeflex, drilled magnesium rods and to make other CP improvements along various lengths of the mainline pipe.

MP 773.46 to MP 774.39

This site will receive a new installation of Anodeflex alongside approximately 4885 feet of the mainline pipe at a depth of approximately 3.5 feet below the existing grade. A number of junction boxes will be installed to support the new Anodeflex and to tie the new system into the new rectifier module.

A trench approximately 0.5 to 2 feet wide and 2 feet deep will be used to lay a new, low-voltage power cable along a portion of TAPS access road 6-APL-1A (PLMP 774.2) which passes through the Alaska Department of Transportation and Public Facilities' (ADOTPF) Thompson Pass maintenance station to connect the module to the buried pipeline. The new module will be located adjacent to the road within the ADOTPF station boundaries. New right-of-way is required to run the new power cables from the nearby existing TAPS right-of-way to the module and for the module itself. Copper Valley Electric Association will provide power to the new module via a new underground cable from its existing power pole at the ADOTPF camp.

The new Anodeflex will be installed, utilizing the bottom of the channel as existing grade where applicable. The Anodeflex installation route crosses up to four upstream branches of Ptarmigan Creek. Depending on the weather, some of these branches are likely to be dry during the summer while the work is performed. One or two of the branches may have running water year round, of which, one of those is reported to be contained within a culvert of unknown size. At this time it is the projects intention to excavate and replace in-kind the existing culvert as the Anodeflex installation progresses along the TAPS right-of-way. If any of these streams are flowing they will be temporarily dammed with sandbags, pumped around the work, and discharged to the channel downstream a minimal distance from the excavation work. One bell hole excavation is planned to attach the new CP system to the mainline pipe. Additional bell hole excavations may be utilized to locate the mainline pipe for survey control.

MP 775.95 to MP 776.27

This site will receive a new installation of Anodeflex alongside approximately 1684 feet of the mainline pipe at a depth of approximately 3.5 feet below the existing grade, all south of the highway crossing. A number of junction boxes will be installed to support the new Anodeflex and to tie the system into a new rectifier module via low-voltage, DC power cables buried about two feet deep.

The new module will be located north of the highway adjacent to the easterly boundary of the TAPS right-of-way near pipeline Milepost 775.95; this module will be used to impress future CP upgrades north of the highway crossing. This project will install two new High Density Polyethylene, 6-inch-diameter, roadway casings via directional drilling to provide passage underneath the highway for both the new power cables owned by Copper Valley Electric Association and the low-voltage TAPS CP power cables. The casings will be located adjacent to each other, parallel to the existing buried pipeline and within the existing TAPS right-of-way at PLMP 775.97 (Richardson Highway Milepost 20.3). Bell hole excavations may be utilized to locate the mainline pipe for survey control, and the new connection to the mainline pipe will be at an existing junction box installed in 2012 at MP 775.95.

General

The excavations will be typical TAPS mainline bell holes, trenching and excavations. Minor site specific modifications to the typical excavation will be necessary at some sites where the pipe is buried relatively deep due to ground slope. In some cases benches may be created in the excavation slope for safe equipment access. The excavations will extend to about the top of pipe, and will remain open at that depth until the CP wires are installed and recoating is completed. The excavations will then be backfilled.

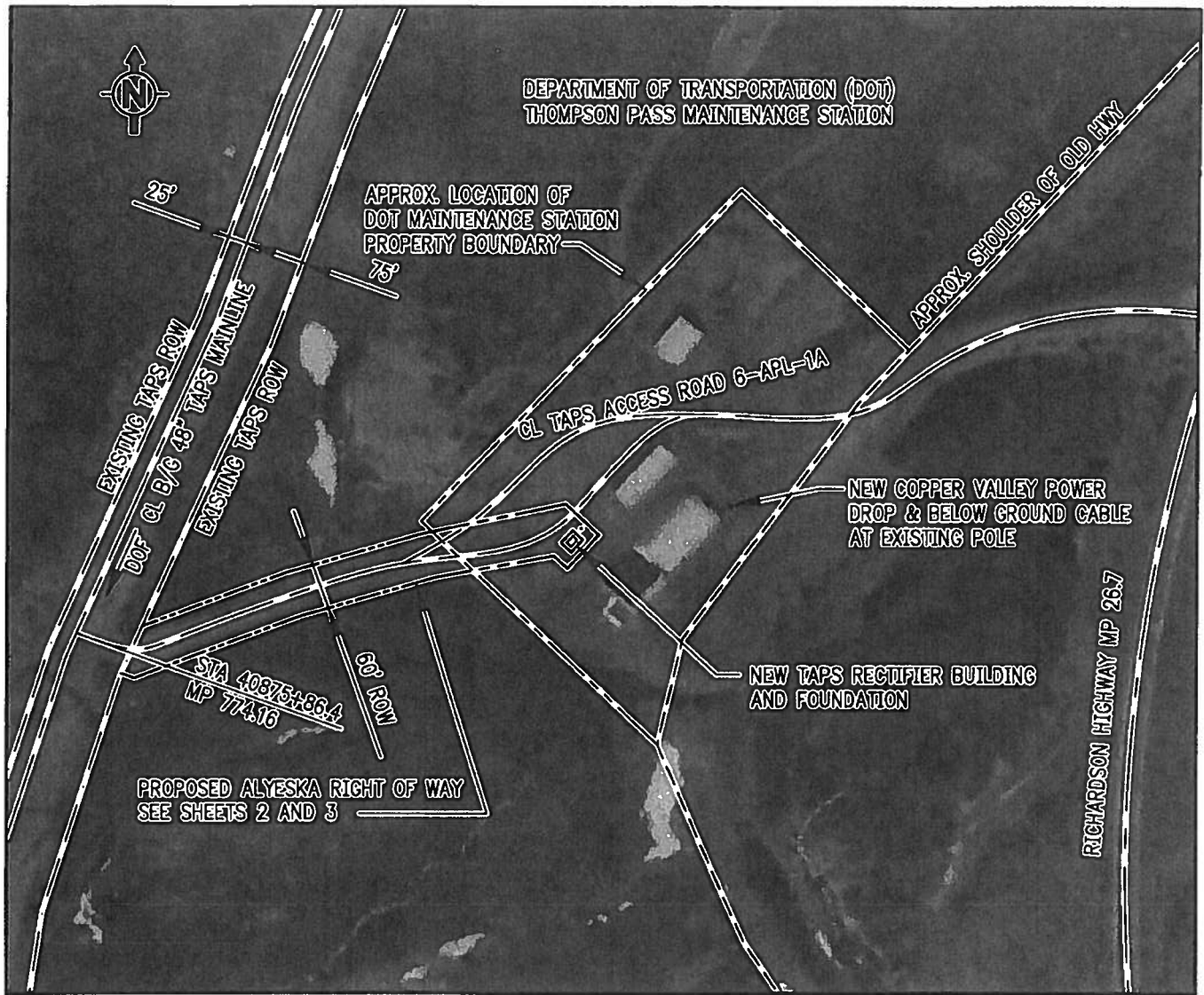
The excavated material will be temporarily stockpiled near the excavations and will all be used to backfill the excavations. When the project is complete, the disturbed areas will be restored to stable slopes approximating the original grade and drainage patterns in accordance with TAPS manual MR-48, section 23 *Erosion Control*.

Dozers, backhoes, dump trucks, pick-up trucks, boom-trucks, sanding-blasting/pipe coating skids, welding skids, heaters, light plants and equipment common to Alyeska Pipeline mainline excavations are expected to be used.

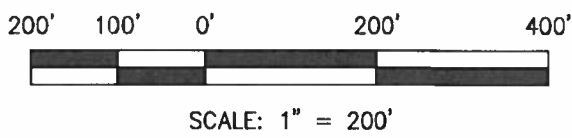
PROJECT SCHEDULE

Site work is expected to begin after August 1, 2013 and will be completed by December 30, 2013.

AFFECTED BY:
AFFECTED BY:
AFFECTED BY:
AFFECTED BY:
AFFECTED BY:



G100 ALIGNMENT SHEET 138
 LAND OWNER: ALASKA
 MERIDIAN: COPPER RIVER, T8S R3W, SECTION 27
 LATITUDE: 61° 8' 29" LONGITUDE: -145° 44' 53"
 APPROX. ROW AREA: 0.616 AC



PLAN

SCALE: 1" = 250'

FOR PERMITTING
PURPOSES ONLY

- NOTES:**
1. PERMANENT ROW REQUEST FOR UTILITY ACCESS.
 2. DOT MAINTENANCE STATION PROPERTY BOUNDARIES ARE APPROXIMATE, REFER TO U.S. SURVEY 5673 FOR MORE INFORMATION.

H113 2013 CP CAPITAL IMPROVEMENT MP 774.16 PERMIT INFORMATION RECTIFIER MODULE AT AKDOT CAMP				
REV.	1	DWN. HDC	CKD. PWK	APPR. PWK

ALYESKA PIPELINE SERVICE CO.	
TRANS ALASKA PIPELINE SYSTEM	
DATE: 10-18-12	A-00-PER77416
SCALE: 1"=200'	SHEET 1 OF 4

AUTOCAD DWG. DO NOT REVISE MANUALLY.

FILE DATE: 05-06-13
PLOT SCALE: 1:1
FILENAME: PER77416_1



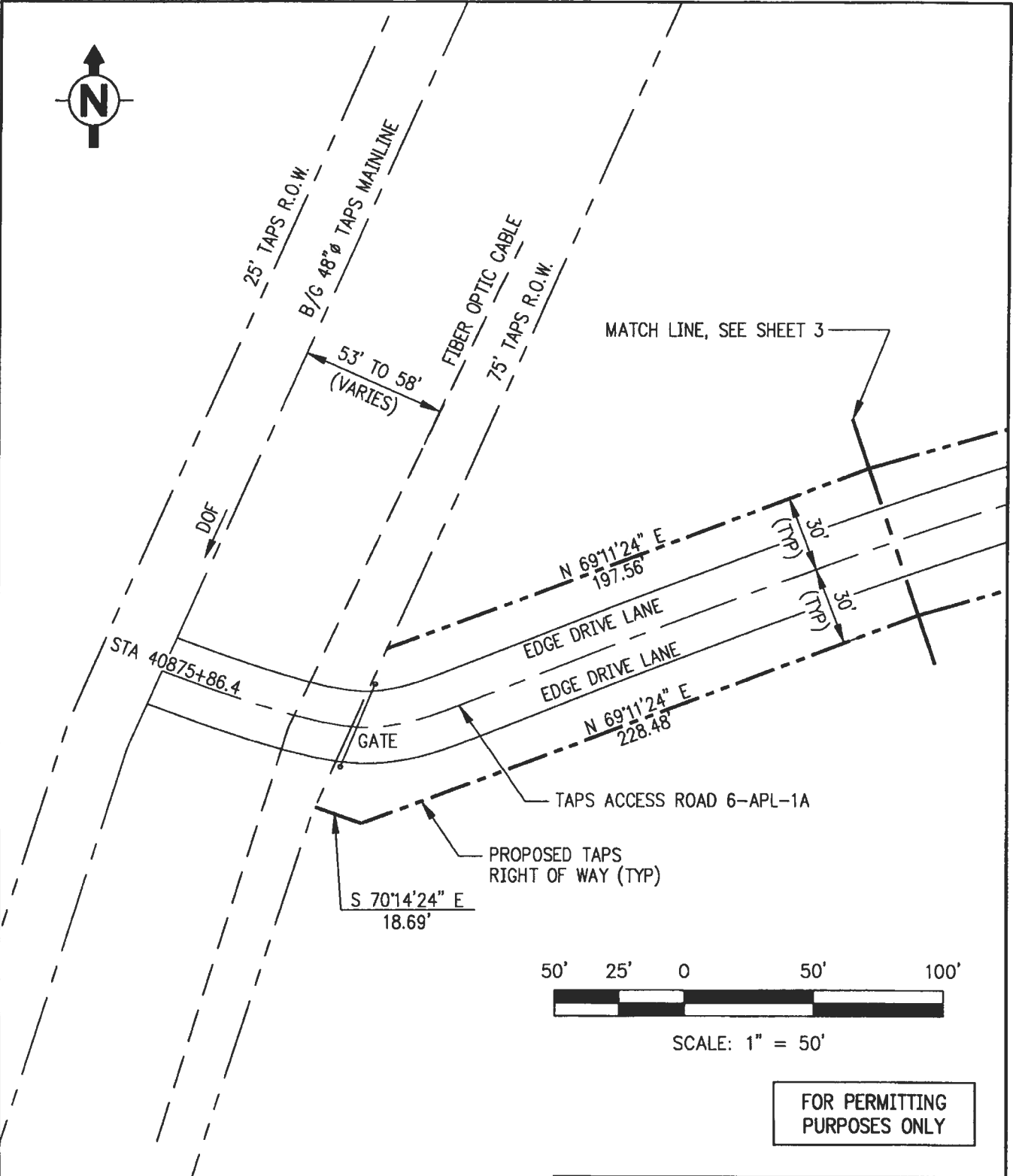
AFFECTED BY:

AFFECTED BY:

AFFECTED BY:

AFFECTED BY:

AFFECTED BY:



MATCH LINE, SEE SHEET 3

STA 40875+86.4

53' TO 58'
(VARIES)

N 69°11'24" E
197.56'

EDGE DRIVE LANE
EDGE DRIVE LANE

N 69°11'24" E
228.48'

S 70°14'24" E
18.69'



SCALE: 1" = 50'

FOR PERMITTING
PURPOSES ONLY

ALYESKA PIPELINE SERVICE CO.

TRANS ALASKA PIPELINE SYSTEM

DATE: 02-14-13

A-00-PER77416

SCALE: 1" = 50'

SHEET 2 OF 4

FILE DATE: 4-12-13

PLOT SCALE: 1:1

FILENAME: PER77416_2

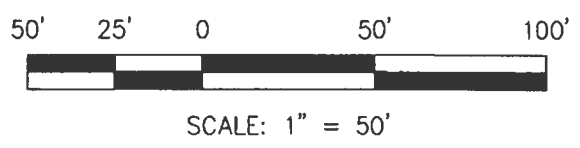
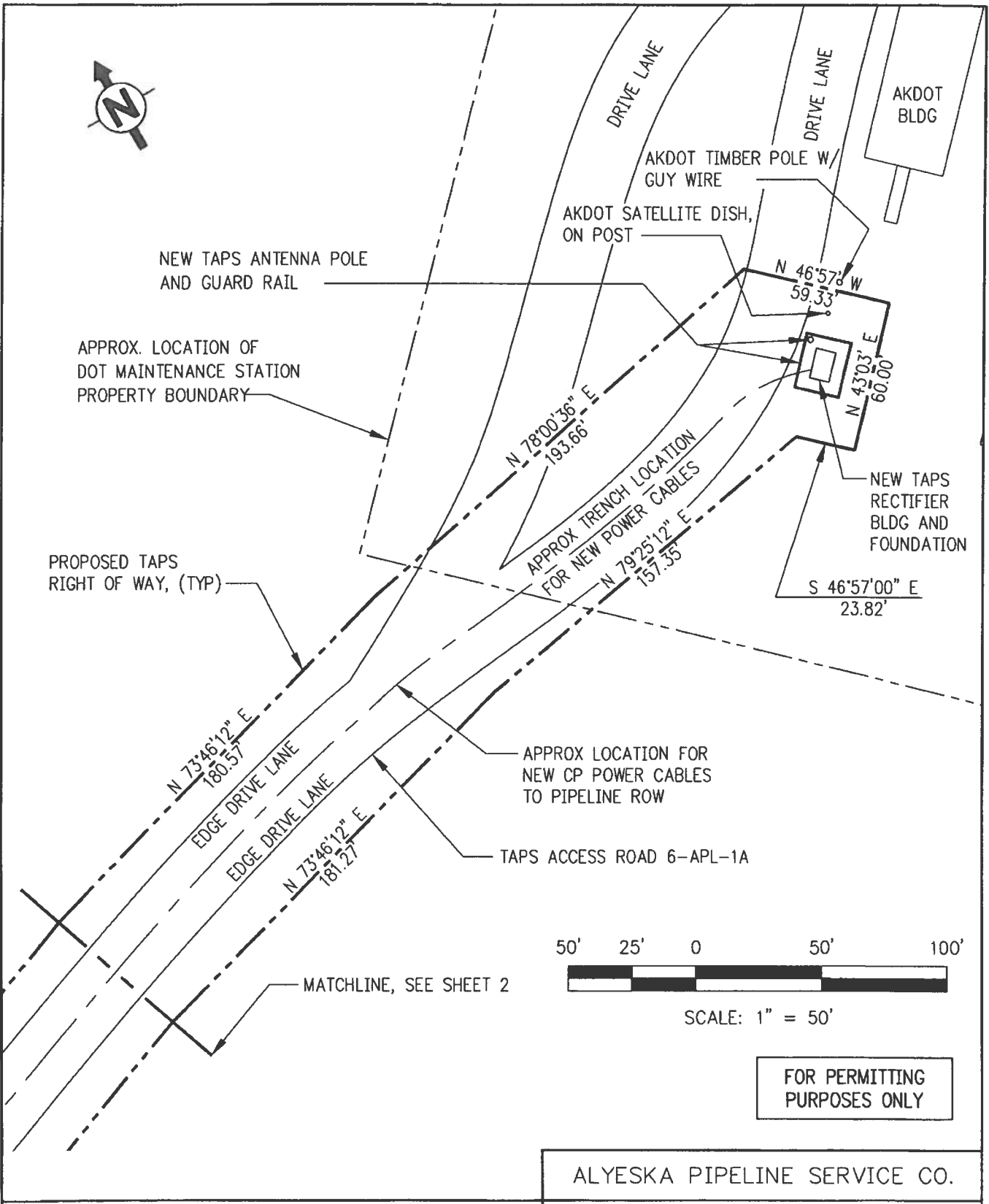
H113 2013 CP CAPITAL IMPROVEMENT
MP 774.16 PERMIT INFORMATION
PROPOSED TAPS RIGHT OF WAY

REV.	1	DWN. GSH	CKD. PKW	APPR. PKW
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AUTOCAD DWG. DO NOT REVISE MANUALLY.



AFFECTED BY:
AFFECTED BY:
AFFECTED BY:
AFFECTED BY:
AFFECTED BY:



FOR PERMITTING PURPOSES ONLY

ALYESKA PIPELINE SERVICE CO.	
TRANS ALASKA PIPELINE SYSTEM	
DATE: 02-14-13	A-00-PER77416
SCALE: 1" = 50'	SHEET 3 OF 4

H113 2013 CP CAPITAL IMPROVEMENT MP 774.16 PERMIT INFORMATION PROPOSED TAPS RIGHT OF WAY			
REV. 1	DWN. GSH	CKD. PKW	APPR. PKW

FILE DATE: 05-06-13
PLOT SCALE: 1:1
FILENAME: PER77417_3

AUTOCAD DWG. DO NOT REVISE MANUALLY.

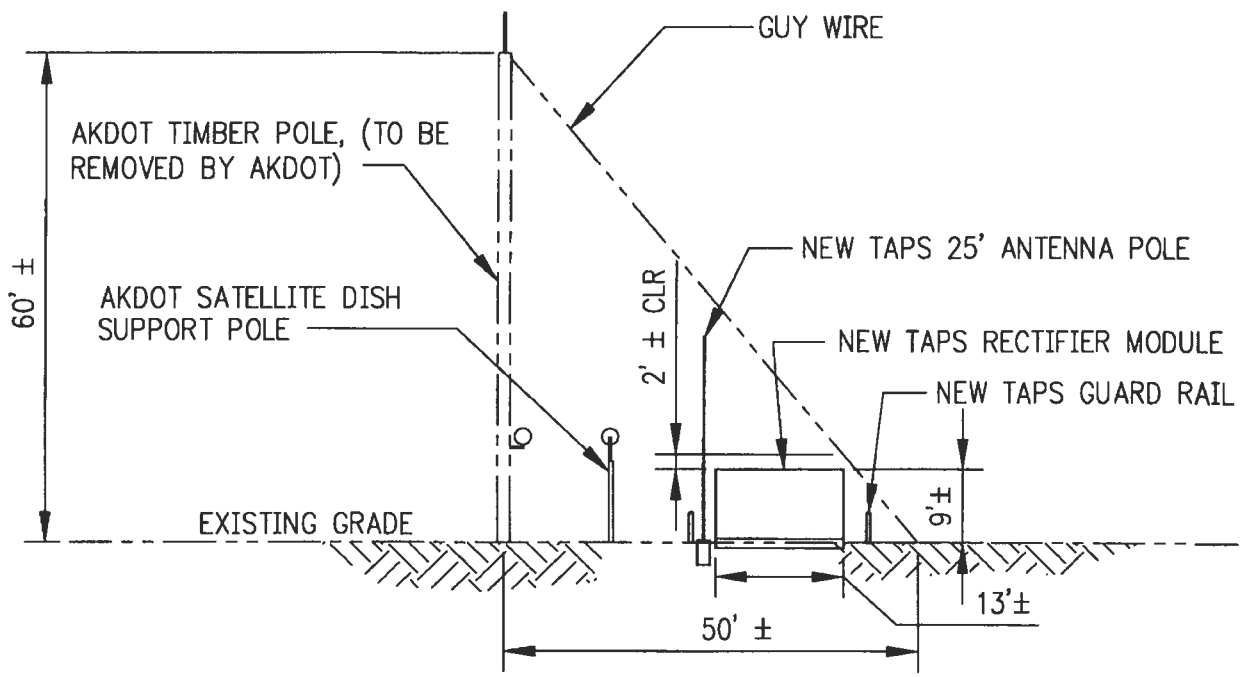
AFFECTED BY:

AFFECTED BY:

AFFECTED BY:

AFFECTED BY:

AFFECTED BY:



SCALE: 1" = 20'

NOTE:
 IT IS ASSUMED THAT THE UNUSED TIMBER POLE WILL BE
 REMOVED BY THE ALASKA DEPARTMENT OF TRANSPORTATION
 PRIOR TO INSTALLATION OF THE NEW TAPS RECTIFIER MODULE.

FOR PERMITTING
 PURPOSES ONLY

H113 2013 CP CAPITAL IMPROVEMENT
 MP 774.16 PERMIT INFORMATION
 TIMBER POLE & RECTIFIER MODULE ELEVATION

ALYESKA PIPELINE SERVICE CO.

TRANS ALASKA PIPELINE SYSTEM

DATE: 02-27-13 A-00-PER77416

REV. 1	DWN. HDC	CKD. PKW	APPR. PKW
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SCALE: 1" = 20'	SHEET 4 OF 4
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AUTOCAD DWG. DO NOT REVISE MANUALLY.

FILE DATE: 4-19-13

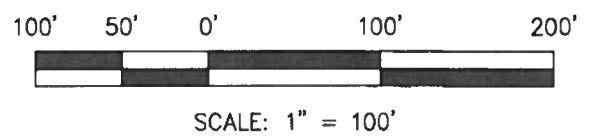
PLOT SCALE: 1:1

FILENAME: PER77416_4

AFFECTED BY:
AFFECTED BY:
AFFECTED BY:
AFFECTED BY:



G100 ALIGNMENT SHEET 139
 LAND OWNER: ALASKA
 MERIDIAN: COPPER RIVER, T9S R3W, SECTION 4
 LATITUDE: 61° 7' 6" LONGITUDE: -145° 45' 29"
 APPROX. ROW AREA: 0.11 ACRES



PLAN
 SCALE: 1" = 100'

FOR PERMITTING
 PURPOSES ONLY

- NOTES:**
 1. NEW HDPE CASING IS FOR NEW POWER AND CP CABLES. CABLE QUANTITY, SIZES, AND EXACT CASING LOCATION TO BE DETERMINED.
 2. EXCAVATION IS FOR NEW CASINGS. FILL IS FOR NEW MODULE FOUNDATION.

H113 2013 CP CAPITAL IMPROVEMENT MP 775.95 PERMIT INFORMATION RECTIFIER SHELTER			
REV.	2	DWN. HDC	CKD. PWK
			APPR. PWK

ALYESKA PIPELINE SERVICE CO.	
TRANS ALASKA PIPELINE SYSTEM	
DATE: 10-18-12	A-00-PER77595
SCALE: 1"=100'	SHEET 1 OF 2

FILE DATE: 05-14-13
 PLOT SCALE: 1:1
 FILENAME: PER77595

AUTOCAD DWG. DO NOT REVISE MANUALLY.

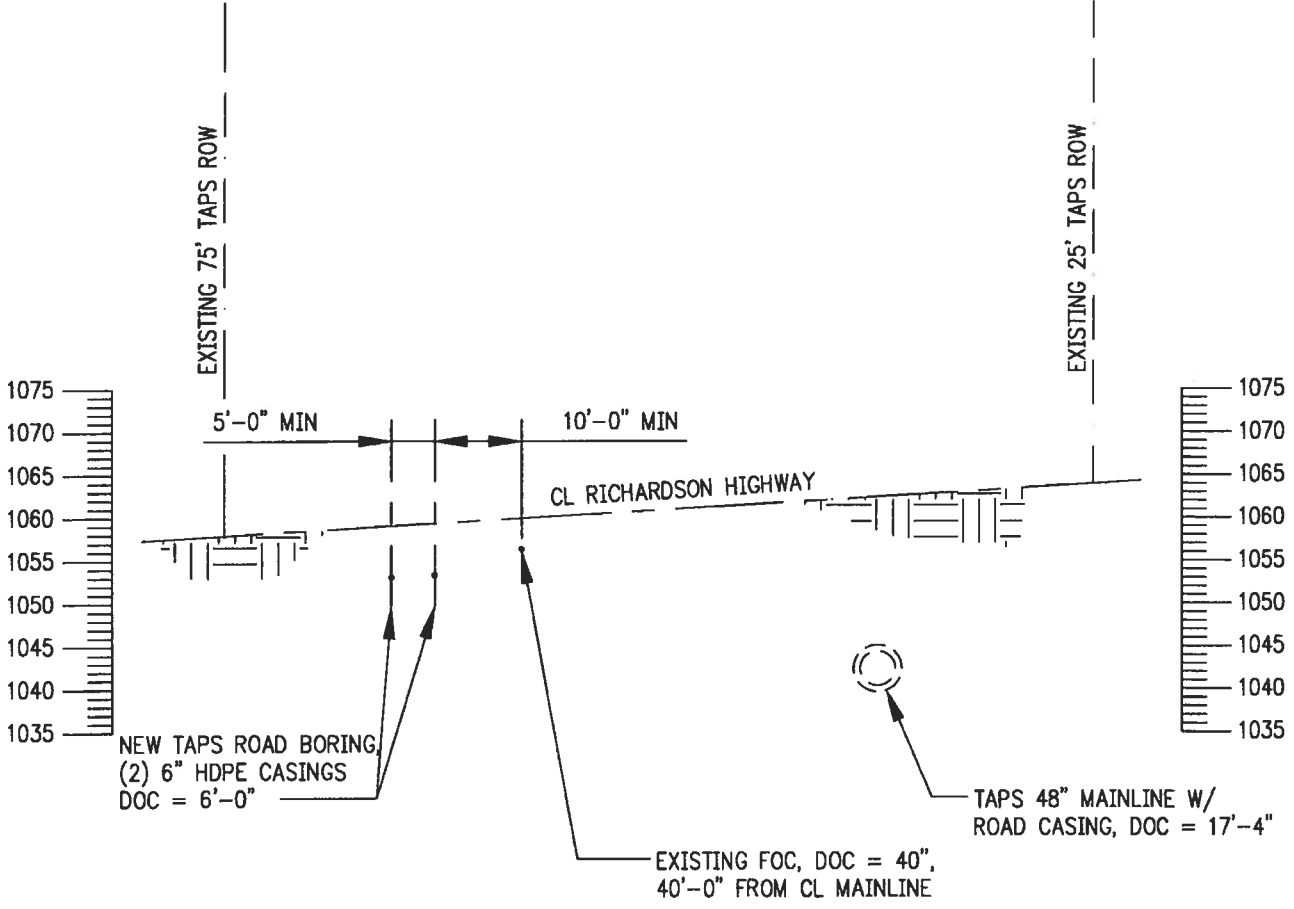
AFFECTED BY:

AFFECTED BY:

AFFECTED BY:

AFFECTED BY:

AFFECTED BY:



ELEVATION @ CL HIGHWAY

SCALE: 1" = 20'

FOR PERMITTING
PURPOSES ONLY

NOTES:
1. NEW HDPE CASING IS FOR NEW POWER AND CP CABLES. CABLE QUANTITY, SIZES, AND EXACT CASING LOCATION TO BE DETERMINED.

H113 2013 CP CAPITAL IMPROVEMENT MP 775.95 PERMIT INFORMATION ROAD CASING				ALYESKA PIPELINE SERVICE CO.		
				TRANS ALASKA PIPELINE SYSTEM		
				DATE:	4-10-13	A-00-PER77595
REV.	0	DWN. HDC	CKD. PWK	APPR. PWK	SCALE:	1"=20'
					SHEET	2 OF 2

AUTOCAD DWG. DO NOT REVISE MANUALLY.

FILE DATE: 4-16-13

PLOT SCALE: 1:1

FILENAME: PER77595 SH 2