

**STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES**

**ANALYSIS AND PROPOSED DECISION
TRANS-ALASKA PIPELINE RIGHT-OF-WAY LEASE AMENDMENT, ADL 63574
THERMAL IMPROVEMENTS AT LOST CREEK HILL, PIPELINE MILEPOST 392**

Proposed Action: The Department of Natural Resources (DNR) received a request from Alyeska Pipeline Service Company (APSC), agent for the Trans-Alaska Pipeline System (TAPS) lessees, to amend the Trans-Alaska Pipeline Right-of-Way (ROW) Lease, ADL 63574 to add lands approximately 57 miles northwest of Fairbanks at Dalton Highway Milepost 6. The purpose of the request is to support the installation of a passive cooling system, which is intended to protect the integrity of TAPS from permafrost degradation at Lost Creek Hill near Pipeline Milepost 392.

The proposed construction ROW is approximately 810 ft. long by 275 ft. wide; located within NW1/4NE1/4 Section 16, Township 8 North, Range 6 West, Fairbanks Meridian; and containing approximately 5.1 acres.

This amendment request is necessary to support the installation of the passive cooling system that would extend outside the existing TAPS ROW. Once construction activities are concluded, the added land to the operational ROW will be surveyed and may include less acreage than approved for construction.

The additional lands are necessary to support the existing pipeline system as defined in AS 38.35.230(7) and authorized by the Trans-Alaska Pipeline ROW Lease, ADL 63574. See drawings for more details (Attachment A).

Authority: AS 38.35.015 and Trans-Alaska Pipeline ROW Lease, ADL 63574.

Administrative Record: Trans-Alaska Pipeline ROW Lease, ADL 63574, and the associated ROW Lease Amendment case file constitute the administrative record.

Background: On March 12, 2020, the Public Notice of the ROW amendment request was published in the Anchorage Daily News and Fairbanks Daily Newsminer newspapers, and posted on the State of Alaska online Public Notice and Division of Oil and Gas Newsroom webpages. The Public Notice was sent for posting in the Noel Wien Library in Fairbanks and U.S. Post Offices in Fairbanks and Coldfoot.

Pursuant to AS 38.35.070, the following coordinate agencies were notified of the applications and associated documents: Department of Labor & Workforce Development, Department of Transportation & Public Facilities, Department of Environmental Conservation, and Regulatory Commission of Alaska. Additionally, the following agencies received the link to the applications and associated documents: the Alaska Departments of Fish & Game (ADF&G), Revenue, and Public Safety.

The Office of History and Archaeology (OHA) State Historic Preservation Office (SHPO) reviewed the proposed revetment construction zones. On March 24, 2020, OHA determined there are no known cultural resource sites in the proposed activity areas. If inadvertent discoveries of cultural resources occur, OHA must be notified to evaluate whether the resource should be preserved in the public interest pursuant to AS 41.35.070(d). Examples of cultural resource sites

that can be encountered include: historical cabin remains, adits, dredges, mining equipment, cultural depressions or pits, graves or cemeteries, tools, artifacts, and paleontological remains.

Project Description: The project site is located approximately 57 miles northwest of Fairbanks at Dalton Highway Milepost 6 and will be accessed by the existing TAPS access road 71-APL-1. The area is covered by a thick layer of sphagnum moss with vegetation consisting of black spruce, alder and dwarf birch. The closest waterbody is Lost Creek, a resident fish stream, located approximately 300 feet away from the project site.

The purpose of the proposed project is to protect the integrity of the Trans-Alaska Pipeline mainline from permafrost degradation. Slope creep movement of the hillside at Pipeline Milepost 392 has caused a few vertical support members (VSMs) to tilt and bend. APSC proposes to mitigate this by constructing a passive cooling system to stabilize the ground. The new cooling system consists of approximately 100 free-standing heat pipes to be installed by driving steel casings 40 to 60 feet into the ground with thermosyphons inserted inside the casings. The system also includes a 3-foot layer of insulating wood chips and horizontal ventilation pipes to be placed in the thermal improvement area to assist with cooling the subsurface. The bent VSMs would be replaced and embedded to depths between 50 and 60 feet, and installed with thermosyphons by driving steel casings.

The project area will require clearing and removal of existing small trees and brush. Disturbances to the adjacent vegetation and local wildlife will be minimized, for example, covers will be installed over the vent pipe openings to inhibit wildlife entry. Best management practices will be used to prevent sedimentation of adjacent waterways, including wetlands outside the project area. Equipment that may be used during the 120-day project timeline are drill rigs, cranes, tractor side-dumps, articulated haul trucks, excavators, front-end loaders, skid steers, wood chip spreaders, dozers, a fuel truck and water truck.

Title: The State of Alaska holds fee title to the subject lands in Section 16, Township 8 North, Range 6 West, Fairbanks Meridian, pursuant to (GS 3502) by Patent No. 50-89-0479, recorded August 31, 1989.

Planning and Classification: The State of Alaska lands to be added to the TAPS ROW are classified as Water Resource under Classification Order CL NC-10-005 in the Yukon Tanana Area Plan within the Lower Tanana Region. Section 16 of Township 8 North, Range 6 West, Fairbanks Meridian is closed to mineral entry under Mineral Order (MO) 1147 and is designated as “Water Resource” (Wr) by the area plan. The management intent of this designation is to protect and maintain wetland hydrologic and habitat values. Development is not anticipated and is not appropriate in this unit, with the exception of projects that provide a general public benefit, such as TAPS operations and maintenance.

The proposed thermal improvements will provide essential permafrost degradation mitigation along the pipeline, and is necessary for protecting the integrity of TAPS. This use is consistent with the management intent of the area. There is nothing in the classification that prohibits the proposed additional of lands to the TAPS ROW to protect the transportation of oil resources.

Public Notice: Notice of this Analysis and Proposed Decision for the lease amendment request will be published in the Anchorage Daily News and Fairbanks on December 2, 2020. The Notice

was posted on the State of Alaska online Public Notice and the Division of Oil & Gas Newsroom webpages on December 2, 2020. The Notice will also be sent for posting in the Noel Wien Library in Fairbanks and U.S. Post offices in Fairbanks and Coldfoot.

If public comment indicates the need for significant changes in the proposed decision, additional public notice will be given on or after January 4, 2021. If no significant change is required, the proposed decision, including any minor changes, will be issued as the final decision of the Department of Natural Resources after January 4, 2021, without further notice.

Analysis: AS 38.35, the Alaska Right-of-Way Leasing Act, sets forth the procedures by which certain ROW leases are granted by the State of Alaska and the conditions under which they can be amended. Pursuant to AS 38.35.010, it is the policy of the state that development, use, and control of a pipeline transportation system make the maximum contribution to the development of the human resources of this state, increase the standard of living for all its residents, advance existing and potential sectors of its economy, strengthen free competition in its private enterprise system, and carefully protect its incomparable natural environment.

Pursuant to AS 38.35.015, the Commissioner has the power to grant leases of state land for pipeline ROW purposes. The Commissioner found it to be in the best interest of the residents of the State of Alaska to issue the Trans-Alaska Pipeline ROW Lease, ADL 63574 on May 3, 1974, and the Renewal and Amendment of ROW Lease for the Trans-Alaska Pipeline and Associated Rights, ADL 63574, effective May 2, 2004. The terms, conditions, stipulations and reservations contained in the Trans-Alaska Pipeline ROW Lease, ADL 63574, will apply to these lands if added to the lease.

AS 38.35.020(a) requires the applicant to obtain a ROW lease of state land from the Commissioner. The thermal improvements at Lost Creek Hill are intended to mitigate permafrost degradation. The proposed activities are for protecting the integrity of the pipeline and are consistent with the original purpose of the lease. The improvements require additional disposals of interest in state land beyond what was included in the original terms of the Trans-Alaska Pipeline ROW Lease, ADL 63574. Therefore, an amendment to the lease is required when there is a disposal of an interest in state land or resources beyond what was reviewed and approved during the original adjudication.

The installation of the passive cooling system on Lost Creek Hill is to mitigate permafrost degradation and sloping of the vertical support members. Structures such as the passive cooling system are addressed in Stipulation 1.1.1.36(12) "Mechanical refrigeration equipment" of the Trans-Alaska Pipeline ROW Lease, ADL 63574. Thermal improvements are considered "Related Facilities", of which their substantial and continuous use is necessary for the operation or maintenance of TAPS.

The engineers at the DNR, Division of Oil and Gas, State Pipeline Coordinator's Section (SPCS) reviewed the Lost Creek Hill Thermal Improvements Technical Work Package and agreed the replacement of VSMs and heat pipes are necessary for maintaining stable aboveground support for the sloping terrain and protecting the integrity of TAPS. However, the work package is too preliminary to verify the calculations and assumptions. If this project is authorized, the SPCS will require a final revised technical work package (Issued for Construction) to be submitted as soon as it is available.

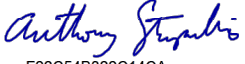
Findings: The proposed project is integral to the protection of the pipeline. The thermal improvements are considered a "Related Facility," as defined by the lease, and will be managed under the lease. The proposal to add the above-described lands to the Trans-Alaska Pipeline ROW Lease, ADL 63574, is consistent with the lease. The terms, conditions and stipulations contained in Trans-Alaska Pipeline ROW Lease, ADL 63574, adequately address and protect the interest of the State of Alaska. The thermal improvements are to mitigate permafrost degradation and slope movement of the above ground pipeline, protecting the integrity of TAPS.

DNR will require a final revised technical work package (Issued for Construction) to be submitted as soon as it is available. DNR will examine the project area upon completion of the construction activities to ensure all lands are in a condition acceptable to the Commissioner. An as-built survey is required for the amendment to identify the additional ROW area and to depict the location of the revetment in relation to the control line survey of the ROW. The as-built survey is to be submitted for review and acceptance by the Commissioner, pursuant to Section 1(e) of the Trans-Alaska Pipeline ROW Lease, ADL 63574, as amended.

The addition of these lands to the lease does not constitute a significant amendment to the lease, since the impact on state resources will be negligible and the project does not conflict with or significantly change existing use of the land. Approval of the request for the amendment to add the described lands is consistent with state statutes and the terms of the lease. The lessee is required to secure all necessary permits or authorizations required by other local, state, and federal agencies.

Proposed Decision: I find that the request to amend the Right-of-Way Lease for the Trans-Alaska Pipeline, ADL 63574, to include the lands described in this proposed decision is in the best interest of the state and does not constitute a significant amendment to the lease.

If no significant change is required because of public comment or objection, then the proposed decision, including any minor changes, will be issued as the final decision of the Department of Natural Resources after January 4, 2021, without further notice.

DocuSigned by:

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Anthony Strupulis, P.E.
State Pipeline Coordinator

11/30/2020

Date

Attachment A: Trans-Alaska Pipeline System
Pipeline MP 392, Lost Creek Hill
Thermal Improvements Plan,
Plates 1-4, Dated 01/23/2020 (4 Pages)

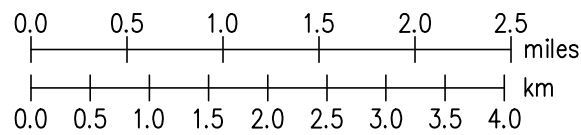
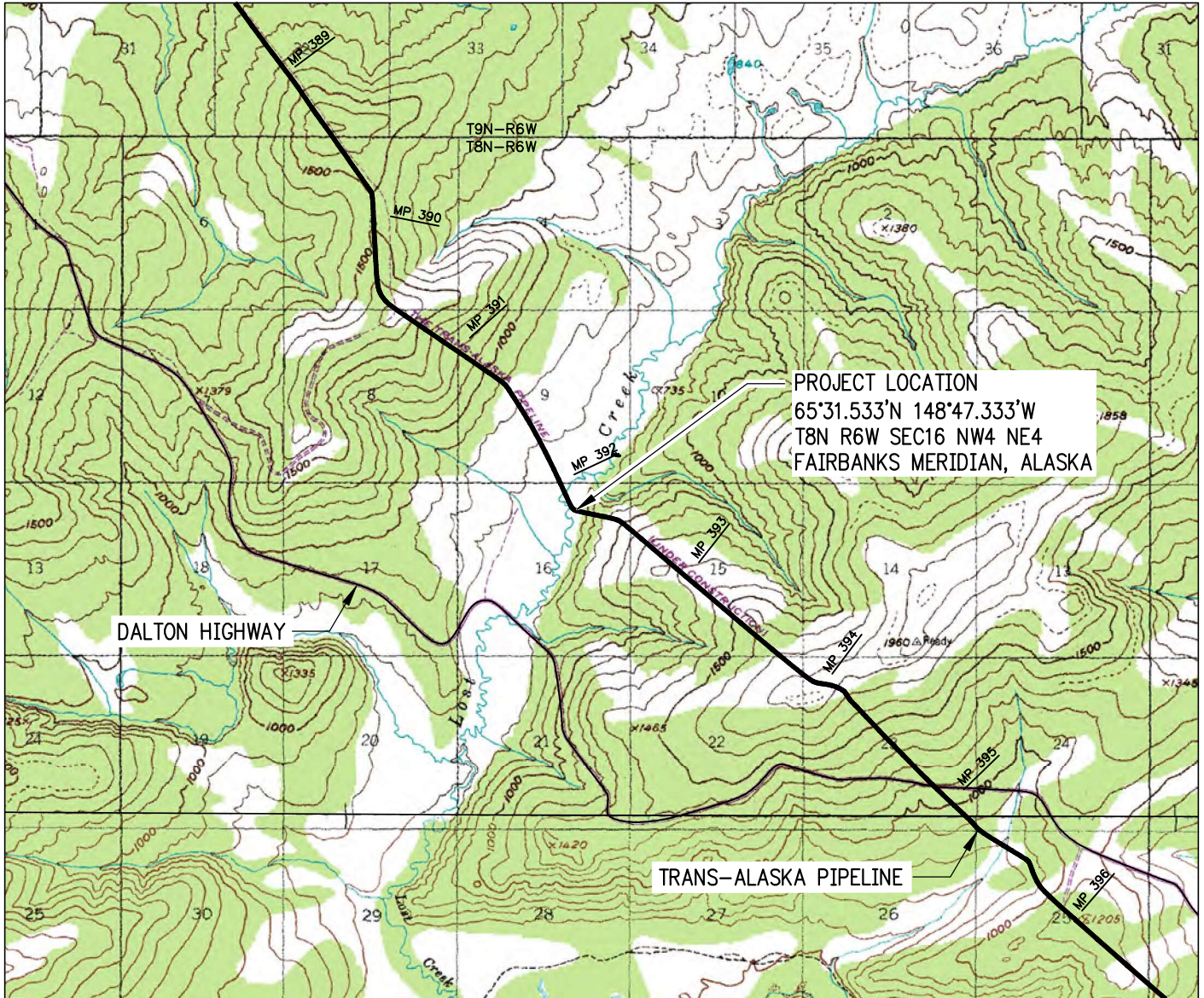
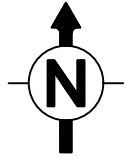
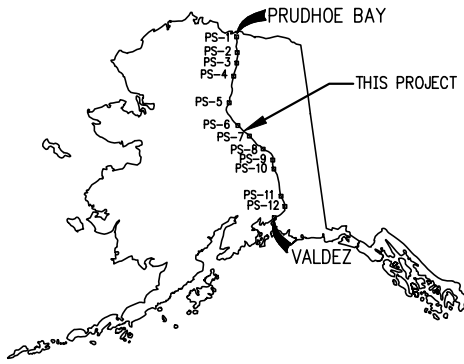
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ADJACENT PROPERTY OWNER: STATE OF ALASKA

ALYESKA PIPELINE SERVICE CO.

PIPELINE MP 392 LOST CREEK HILL
THERMAL IMPROVEMENTS
LOCATION AND VICINITY MAP

TRANS ALASKA PIPELINE SYSTEM

DATE: 01/23/20

PLATE 1

REV.	C	DWN. MTH	CKD. AJN	APPR. JPD
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SCALE: AS NOTED

SHEET 1 OF 5

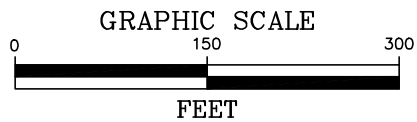
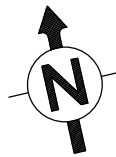
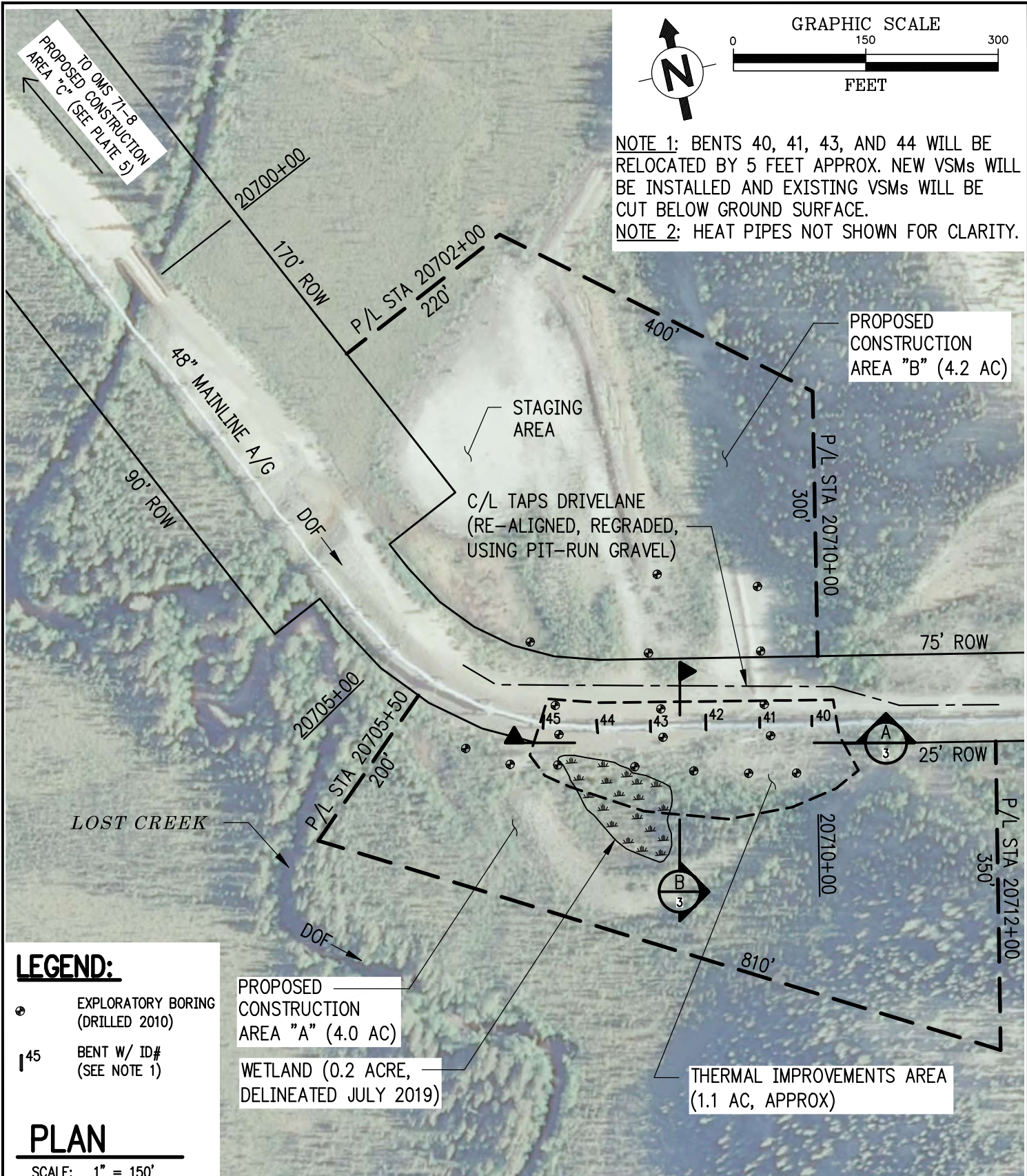
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NOTE 1: BENTS 40, 41, 43, AND 44 WILL BE RELOCATED BY 5 FEET APPROX. NEW VSMs WILL BE INSTALLED AND EXISTING VSMs WILL BE CUT BELOW GROUND SURFACE.

NOTE 2: HEAT PIPES NOT SHOWN FOR CLARITY.

LEGEND:

- ⊕ EXPLORATORY BORING (DRILLED 2010)
- 45 BENT W/ ID# (SEE NOTE 1)

PROPOSED CONSTRUCTION AREA "A" (4.0 AC)

WETLAND (0.2 ACRE, DELINEATED JULY 2019)

THERMAL IMPROVEMENTS AREA (1.1 AC, APPROX)

PLAN

SCALE: 1" = 150'

PHOTO DATE: 2013

ADJACENT PROPERTY OWNER: STATE OF ALASKA

ALYESKA PIPELINE SERVICE CO.

PIPELINE MP 392 LOST CREEK HILL
THERMAL IMPROVEMENTS
PLAN

TRANS ALASKA PIPELINE SYSTEM

DATE: 01/23/20

PLATE 2

REV.	C	DWN. MTH	CKD. AJN	APPR. JPD
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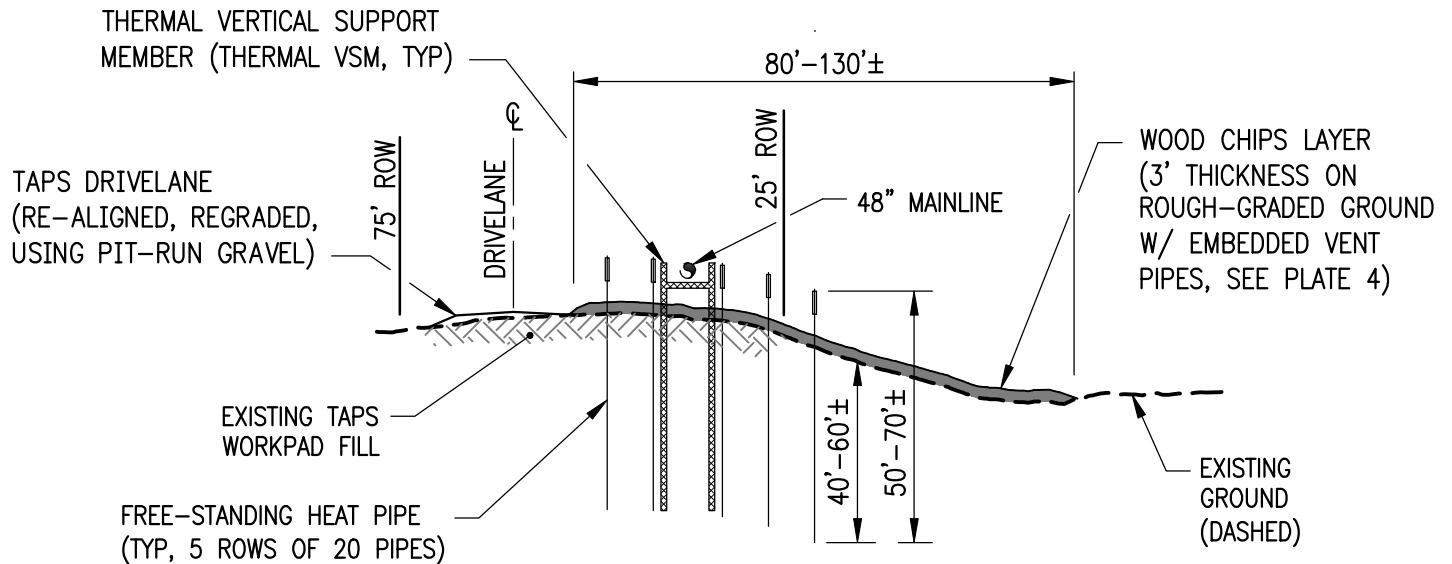
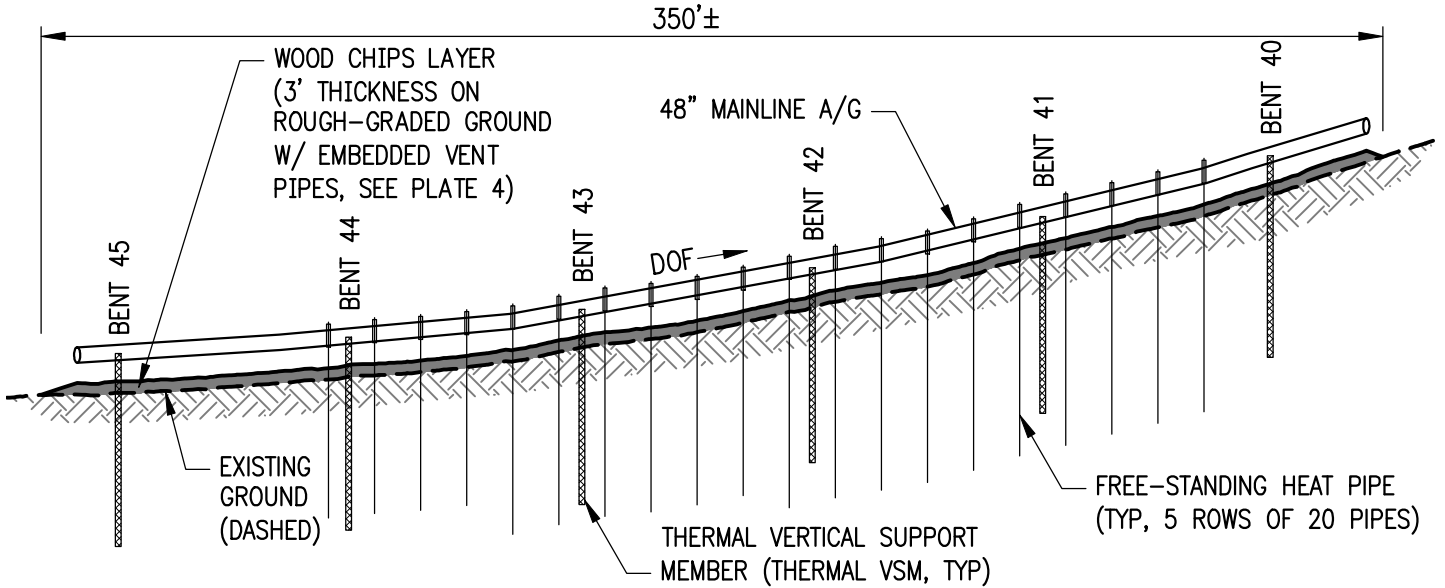
SCALE: AS NOTED	SHEET 2 OF 5
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ESTIMATED MATERIAL QUANTITIES

	INSIDE WETLAND	OUTSIDE WETLAND	TOTAL
SAND & GRAVEL (3"-MINUS)	200 CY	2,000 CY	2,200 CY
	6,000 SF	18,000 SF	24,000 SF
WOOD CHIPS (1"-SQ, NOM)	700 CY	5,300 CY	6,000 CY
	6,300 SF	47,700 SF	54,000 SF



ADJACENT PROPERTY OWNER: STATE OF ALASKA

ALYESKA PIPELINE SERVICE CO.

PIPELINE MP 392 LOST CREEK HILL
THERMAL IMPROVEMENTS
SECTIONS

TRANS ALASKA PIPELINE SYSTEM

DATE: 01/23/20

PLATE 3

REV. C DWN. MTH CKD. AJN APPR. JPD

SCALE: AS NOTED

SHEET 3 OF 5

AFFECTED BY:

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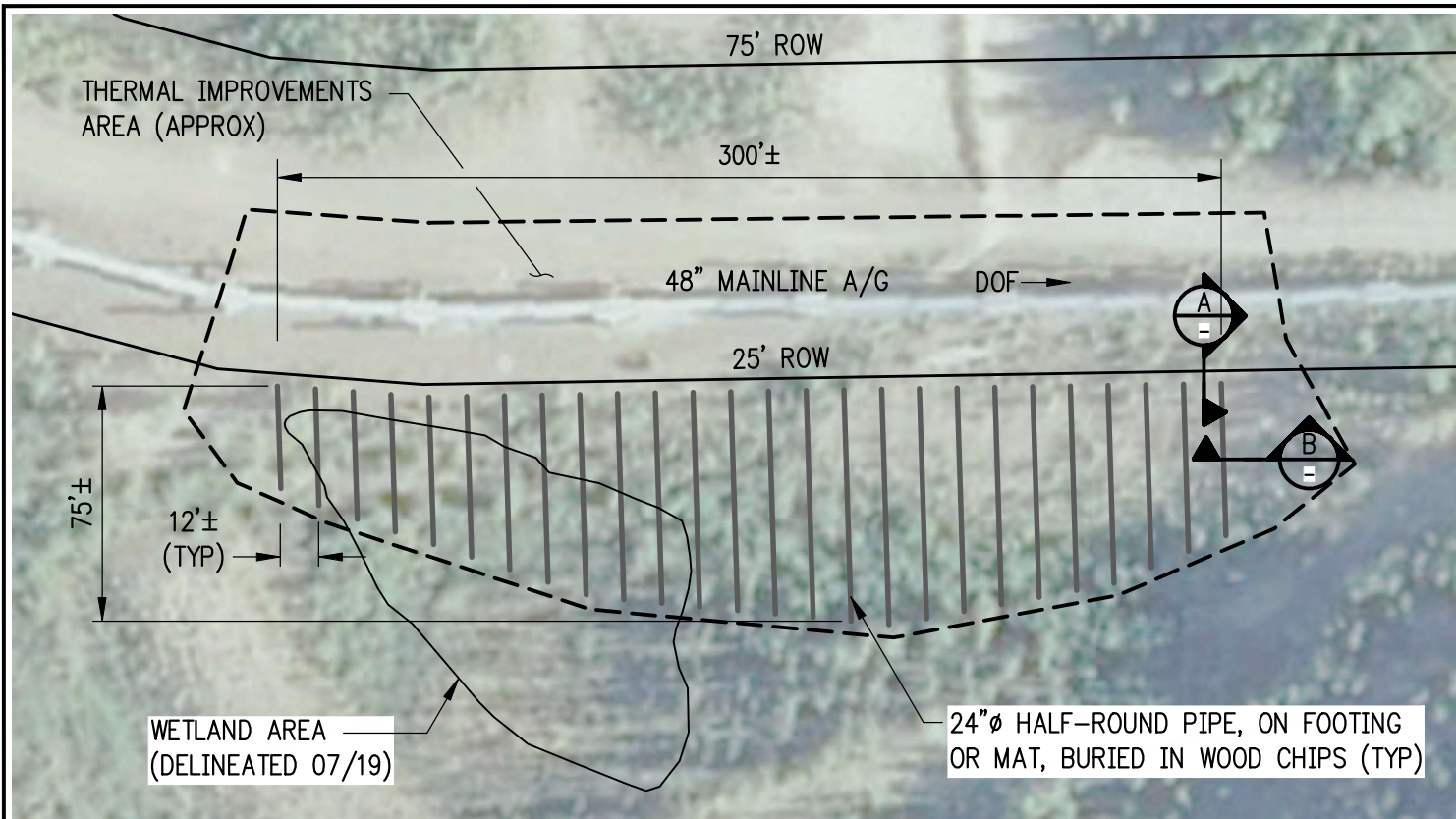
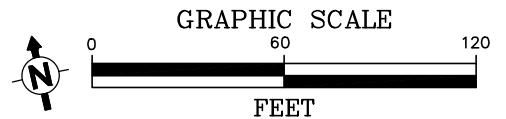


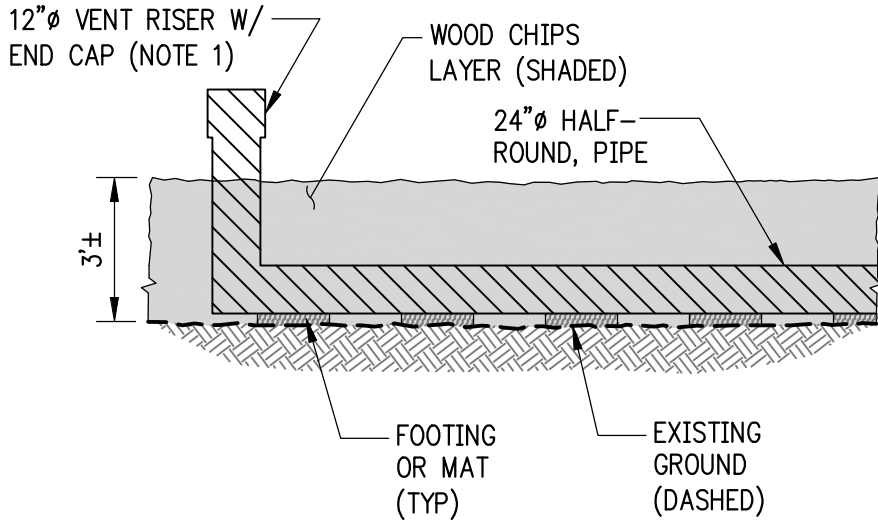
PHOTO DATE: 2013

PLAN (VENTILATED EMBANKMENT SLOPE)

SCALE: 1" = 60'

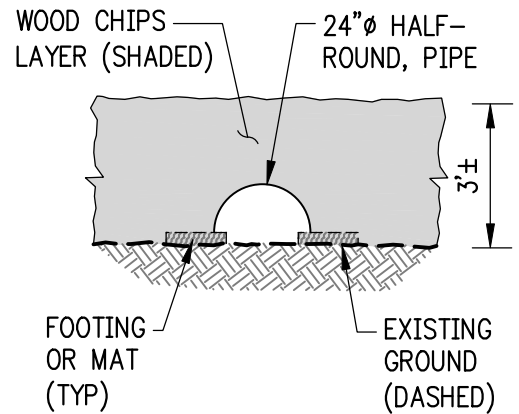


NOTE 1: VENT PIPE OPENINGS SHALL BE GRATED OR SHROUDED TO INHIBIT WILDLIFE ENTRY.



SECTION A

SCALE: 1" = 4'



SECTION B

SCALE: 1" = 4'



ADJACENT PROPERTY OWNER: STATE OF ALASKA

ALYESKA PIPELINE SERVICE CO.

PIPELINE MP 392 LOST CREEK HILL
THERMAL IMPROVEMENTS
PLAN AND SECTION

TRANS ALASKA PIPELINE SYSTEM

DATE: 01/23/20

PLATE 4

REV. C DWN. MTH CKD. AJN APPR. JPD

SCALE: AS NOTED

SHEET 4 OF 5

AUTOCAD DWG. DO NOT REVISE MANUALLY.

FILE DATE: -

PLOT SCALE: -

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