



US Army Corps
of Engineers
Alaska District

Public Notice of Application for Permit

FAIRBANKS FIELD OFFICE
Regulatory Division (1145)
CEPOA-RD
P.O. Box 35066
Fort Wainwright, Alaska 99703

PUBLIC NOTICE DATE:	May 25, 2022
EXPIRATION DATE:	June 24, 2022
REFERENCE NUMBER:	POA-2022-00166
WATERWAY:	Hess Creek

Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States as described below and shown on the enclosed project drawings.

All comments regarding this Public Notice should be sent to the address noted above. If you desire to submit your comments by email, you should send it to the Project Manager's email as listed below or to regpagemaster@usace.army.mil. All comments should include the Public Notice reference number listed above.

All comments should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. Please contact Tiffany Kwakwa at (907) 201-5458, toll free from within Alaska at (800) 478-2712, by fax at (907) 753-5567, or by email at Tiffany.D.Kwakwa@usace.army.mil if further information is desired concerning this notice.

APPLICANT: Brett Nelson, Alaska Department of Transportation and Public Facilities (ADOT&PF) Northern Region, 2301 Peger Road, Fairbanks, AK 99709, brett.nelson@alaska.gov

AGENT: Blair French, ADOT&PF, 2301 Peger Road, Fairbanks, AK 99709, blair.french@alaska.gov

LOCATION: The project site is located within the following Sections, Townships, Ranges, and Meridians; and USGS Quad Maps:

Table 1: Project Location

Township	Range	Section(s)	Meridian	USGS Quad Map
9N	7W	4, 7, 8, 9, 17	Fairbanks	Livengood C-5
10N	7W	18, 19, 30, 31, 32, 33	Fairbanks	Livengood C-5
10N	8W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Fairbanks	Livengood C-5
11N	8W	31	Fairbanks	Livengood C-5
11N	9W	25, 26, 35, 36	Fairbanks	Livengood C-5
11N	9W	25, 26	Fairbanks	Livengood D-5

The beginning of the project is located at Dalton Highway Mile Post (MP) 18 at approximately Latitude 65.601411° N., Longitude 149.066394° W.; the end of the project is located at Dalton Highway MP 37 at approximately Latitude 65.759015° N., Longitude 149.375873° W. The project site can be reached by taking the Elliot Highway north out of Fairbanks, Alaska for approximately 82 miles to the start of the Dalton Highway and continuing along the Dalton Highway for approximately 18 miles, approximately 100 miles north of Fairbanks, Alaska.

PURPOSE: The applicant’s stated purpose is to reconstruct the Dalton Highway between MP 18 and MP 37 to improve highway safety and performance, bring the roadway up to current design standards, reduce annual maintenance costs, and improve drainage and fish passage where applicable. For the replacement of Hess Creek Bridge, the applicant’s stated purpose is to widen the bridge to accommodate passing commercial trucks operating at speeds of approximately 50 miles per hour.

PROPOSED WORK: The proposed repairs and upgrades consist of 83.38 acres of permanent impacts from the discharge of approximately 672,201 cubic yards of fill and 23.84 acres of temporary impacts from the discharge of 5,418 cubic yards of fill into waters of the U.S., including wetlands, consisting of the following components as described in Tables 2, 3, and 4.

Table 2: Project Components

Project Component	Permanent Impact	Temporary Impact
Road widening and realignment; install new culverts and replace existing culverts (described in Table 3 below); at MP 33 unusable ice-rich material would be placed adjacent to the excavated roadway with a containment berm	72.82 acres (668,854 cubic yards fill)	N/A
Material Site 65-3-013-2 (MP 19 Quarry)	9.76 acres (excavation volume unknown; depends on contractor’s use of site)	N/A
Hess Creek Bridge replacement	0.80 acre (3,347 cubic yards fill)	N/A

Hess Creek Bridge detour and half-width construction to maintain driving lane during construction	N/A	0.40 acre (4,027 cubic yards fill)
Two temporary stream diversions, one each at Hot Dog Creek (MP 29.48) and Hot Cat Creek (MP 33.74)	N/A	0.18 acres (2.2 cubic yards fill)
Widening to accommodate half width construction to maintain driving lane during construction	N/A	0.25 acre (1,389 cubic yards fill)
Temporary construction work zone, approximately 10 feet beyond the toe of slope for the length of the road corridor project	N/A	23.01 acres
TOTAL	<i>83.38 acres permanent impacts</i>	<i>23.84 acres temporary impacts</i>

Table 3: Culvert Specifications

Original Size	New Size	Quantity
24-inch	36-inch	67
24-inch	48-inch	5
30-inch	36-inch	2
36-inch	48-inch	10
36-inch	60-inch	1
42-inch	48-inch	8
48-inch	72-inch	1
60-inch	96-inch	1
72-inch	156-inch	1 Fish passage culvert
No size listed as these would be new culverts	36-inch	7 (New)

Note: 96 culverts would be upgraded as described in Table 3 with the addition of 7 new culverts.

Table 4: Permanent Fill Quantities

Fill Type	Volume
Air Convection Embankment (ACE fill)	23 cubic yards
Embankment	429,278 cubic yards
Unusable Excavation	238,858 cubic yards
Waterway Bedfill	1,281 cubic yards
Riprap I	330 cubic yards
Riprap III	2,431 cubic yards
TOTAL	<i>672,201 cubic yards</i>

Additional work associated with the proposed project includes the use of three materials sites located in uplands (Figures 15-b through 15-d, dated April 2022) and excavation of 66,350 cubic yards of material within wetlands. Work is proposed from October 2022 to October 2024.

All work would be performed in accordance with the enclosed plans (Figures 1-26), dated April 2022 and May 2022.

ADDITIONAL INFORMATION:

Additional authorization would be required as follows – Alaska Department of Fish and Game (ADF&G) Fish Habitat Permit, and Alaska Department of Natural Resources Land Use Permit or Easement

APPLICANT PROPOSED MITIGATION: The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the United States from activities involving discharges of dredged or fill material.

a. Avoidance: The applicant has stated that complete avoidance of wetlands is not practicable as there is no reasonable, entirely upland alternative (location and/or alignment) along the existing highway route. The impacts to riverine and lacustrine waters of the U.S. have been avoided where possible.

Regarding materials sites, the applicant states that there are stringent specifications for appropriate materials and Material Source (MS) 64-3-013-2 (MP 19 Quarry) has the highest potential for large-scale production of hard rock materials used in the ACE fill and aggregate surface course (ASC Grading E-1). The currently estimated quantity of hard rock available for extraction within the existing developed site limits at MP 19 Quarry is insufficient to meet project quantity requirements. Geological mapping indicates that additional hard rock quantities may be available through minor expansions of the existing materials site and this single source has the potential to meet project quantity requirements. The applicant states that construction would also benefit from efficiency gains by limiting production lines for hard rock materials to as few sites as possible.

The applicant states that Hess Creek Bridge replacement is at the maximum length for a single span, concrete decked bulb-tee bridge girder. Additional length would require adding a pier in the river and using two spans or constructing a steel bridge, which would double the bridge costs and increase impacts to Hess Creek. A concrete bridge can most likely be completed in one construction season compared to a steel bridge, thus reducing the duration of temporary wetland impacts. Further increasing the bridge height would increase the amount of in-water riprap needed to protect the abutments. Retaining walls would be employed at each abutment, which would reduce the amount of riprap needed in Hess Creek. The current bridge design is taller and approximately 15 feet longer than the existing bridge and would have a slightly larger hydraulic opening. The riprap quantity proposed is required to protect the bridge abutments, especially since this location has a history of ice and debris jams during high water events. Specifying vegetation over riprap is not a standard practice and has been met with limited success as high water events post construction tend to wash away soil placed over

riprap and deposit it downstream. Placing the riprap deeper in the channel would likely have larger impacts to the channel and require more excavation and a larger excavation area.

b. Minimization: The applicant has minimized impacts to wetlands to the greatest extent practicable as described below:

- The vertical roadway geometry has been kept to the minimum required for the design speed.
- The horizontal geometry generally follows the existing roadway centerline with only the necessary curve flattening to meet the minimum radius for the design speed. This reduces the embankment footprint.
- The embankment footprint was further reduced by utilizing a “barn-roof” typical section, which uses a steeper foreslope beyond the clear-zone. The clear-zone is a roadside border area beyond the driving lane available for safe use by errant vehicles. The clear-zone has also been limited to the minimum recommended for the design speed and traffic volume.
- Other alternatives considered during preliminary engineering included larger realignments which would have had a greater wetland impact, but they were not carried forward into final project design. Figures 27-30 (dated March 2021) show the realignment alternatives. The proposed realignments at MP 28, 29.7, and 33.5 are much smaller than those considered in earlier alternatives. The realignment at MP 19.5 was eliminated in favor of ACE shouldering. The proposed ACE shoulder detail is shown in Figure 16.
- Areas for placement of unusable excavation were chosen to minimize wetland impacts as much as practicable by utilizing uplands where available.
- Guardrails would be utilized to steepen the embankment foreslope and reduce fill quantities, thus reducing wetland impacts.
- Existing drainage patterns will be maintained or enhanced through the replacement of damaged or failing culverts. Drainage culverts will be upgraded from 24-inch to 36-inch pipes. Identified fish passage culverts would be designed to meet current fish passage standards.
- Existing culverts will be kept in use while new culverts are constructed in order to minimize the need for temporary diversions. This will prevent the need for temporary wetland impacts associated with the new culvert installations.
- Beyond the 10-foot work zone along the project corridor, the applicant proposes to use a 25-foot vegetation buffer as a construction best management practice (BMP) to protect surface waters from sediment-laden storm water runoff.
- Where existing road surface would be removed, the area would receive topsoil and seed.
- The applicant has reduced use of MS 64-3-013-2 (MP 19 Quarry) from a 19.88 acres expansion into wetlands to 9.76 acres.
- The applicant proposes to use native streambed material in place of waterway bedfill beyond the culvert outfall at Hot Dog Creek (Figure 19). The Hot Cat Creek culvert replacement would include the addition of coir logs, willow cuttings, and salvaged streambed material (Figures 20-a and 20-b).

c. **Compensatory Mitigation:** The applicant is not proposing compensatory mitigation due to the extensive avoidance and minimization measures proposed for the project, the functional enhancements from improving the drainage at and around the project site, and the lack of compensatory mitigation options. The applicant has stated that there is no current feasible option for compensatory mitigation as the Conservation Fund is no longer accepting in-lieu fee (ILF) payments and there are no other ILF sponsors or approved mitigation banks for this region of the state. Of the 2,971 acres delineated as part of the study area (which is larger than and inclusive of the project footprint), 1,211 acres were identified as wetlands by the applicant. The applicant estimates that approximately 7.5% of these wetlands would be impacted by the proposed project. The project would include the addition of seven new 36-inch diameter culverts to improve drainage. Nearly all of the existing culverts within the project limits would be replaced or upsized. The upsized culverts are described under the “Proposed Work” section above. In addition, the applicant states that where the road is being re-aligned, the old alignments would be rehabilitated to reduce erosion.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification, as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

CULTURAL RESOURCES: The lead Federal agency, Federal Highways Administration (FHWA), is responsible for compliance with the requirements of Section 106 of the National Historic Preservation Act. ADOT&PF has assumed the responsibilities of FHWA under 23 U.S.C. § 327 and a Memorandum of Understanding (ADOT&PF and FHWA; November 3, 2017) and has conducted consultation with the Alaska State Historic Preservation Officer (SHPO). The U.S. Army Corps of Engineers (Corps) has reviewed the Section 106 documentation from ADOT&PF, has determined that ADOT&PF’s Area of Potential Effects is larger than and inclusive of the Corps’ Permit Area for Section 106 review, and concurs with their findings and/or determinations.

ENDANGERED SPECIES: No threatened or endangered species are known to use the project area.

We have determined the described activity would have no effect on any listed or proposed threatened or endangered species and would have no effect on any designated or proposed critical habitat, under the Endangered Species Act of 1973 (87 Stat. 844). Therefore, no consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) is required. However, any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

No EFH species are known to use the project area.

We have determined the described activity would not adversely affect EFH in the project area.

TRIBAL CONSULTATION: The Corps fully supports tribal self-governance and government-to-government relations between Federally recognized Tribes and the Federal government. Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This public notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Commander during the public comment period.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The outcome of the general balancing process would determine whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur. The decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Commander determines that it would be contrary to the public interest.

The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above.

Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

AUTHORITY: This permit will be issued or denied under the following authority:

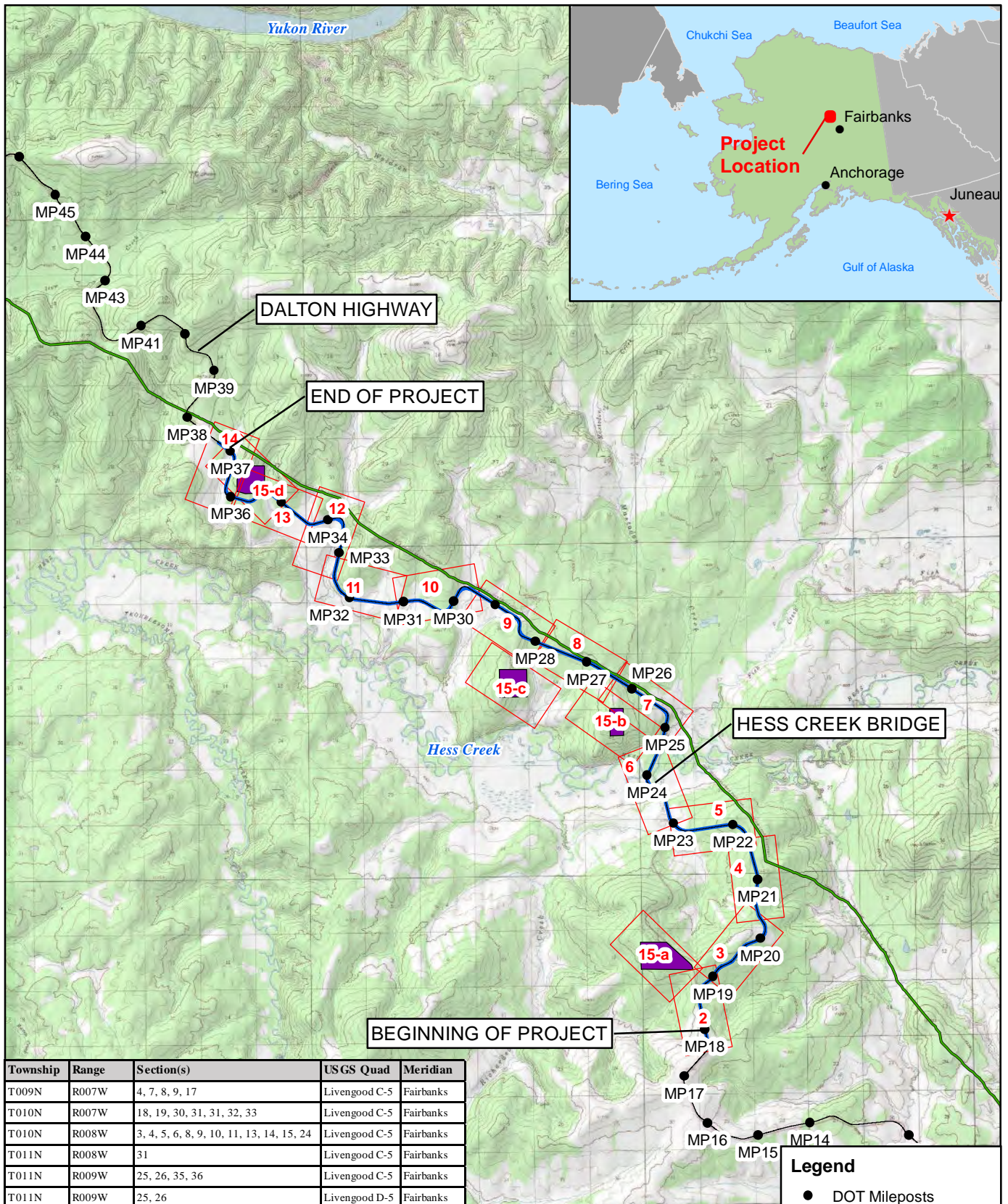
(X) Discharge dredged or fill material into waters of the United States – Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Project drawings and a Notice of Application for State Water Quality Certification are enclosed with this Public Notice.

District Commander
U.S. Army, Corps

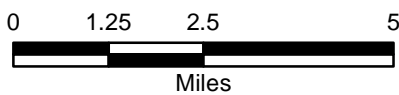
Enclosures

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Township	Range	Section(s)	USGS Quad	Meridian
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T010N	R007W	18, 19, 30, 31, 31, 32, 33	Livengood C-5	Fairbanks
T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

ALL LOCATIONS ARE APPROXIMATE



SOURCE:
ESRI USA Topo Map

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Legend

- DOT Mileposts
- Project Alignment
- TAPS
- Page Index
- Potential Material Sites

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 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

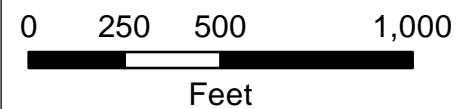
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 TRANSPORTATION AND PUBLIC FACILITIES
 NORTHERN REGION
 DALTON HWY MP 18-37 RECONSTRUCTION
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PROJ.NO: 2328.01
 DATE: MAY 2022
 REF: USACE
 FIGURE NO: 1

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- Project Footprint
- Project Wetlands
- Wetland Impacts
- Temporary Wetland Impacts
- Bridge Detour
- Typical Section
- TAPS
- Culverts

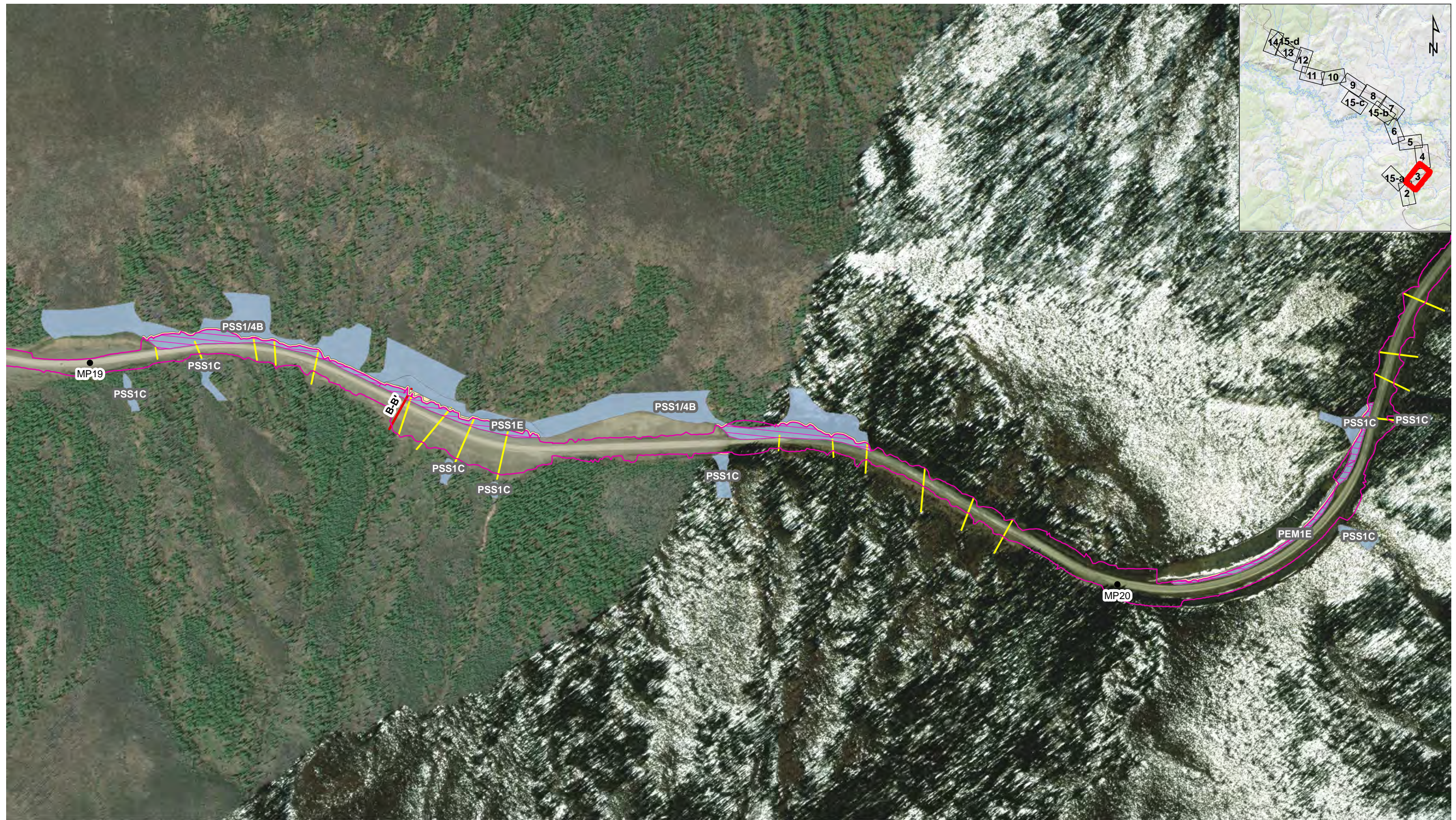
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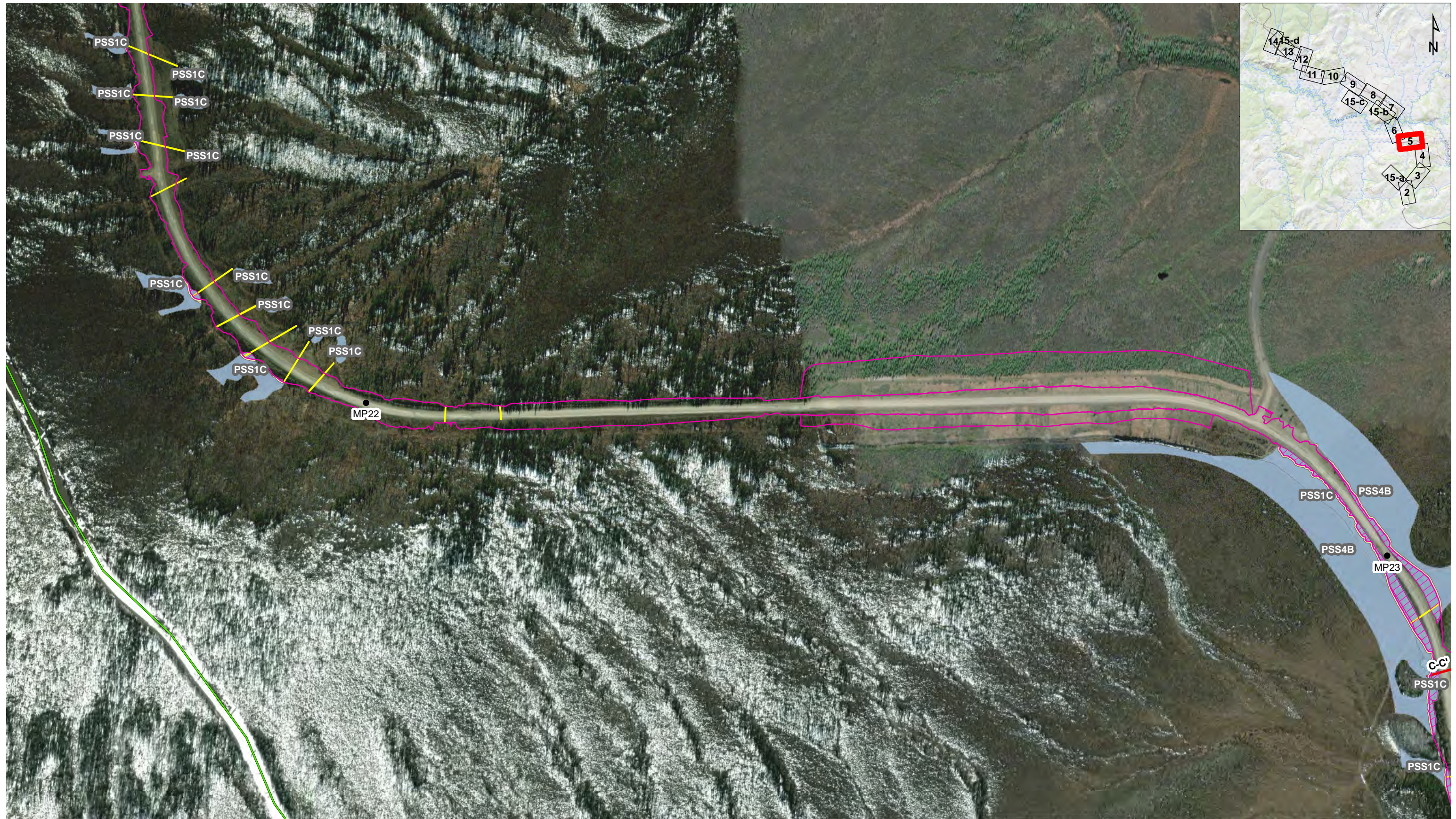
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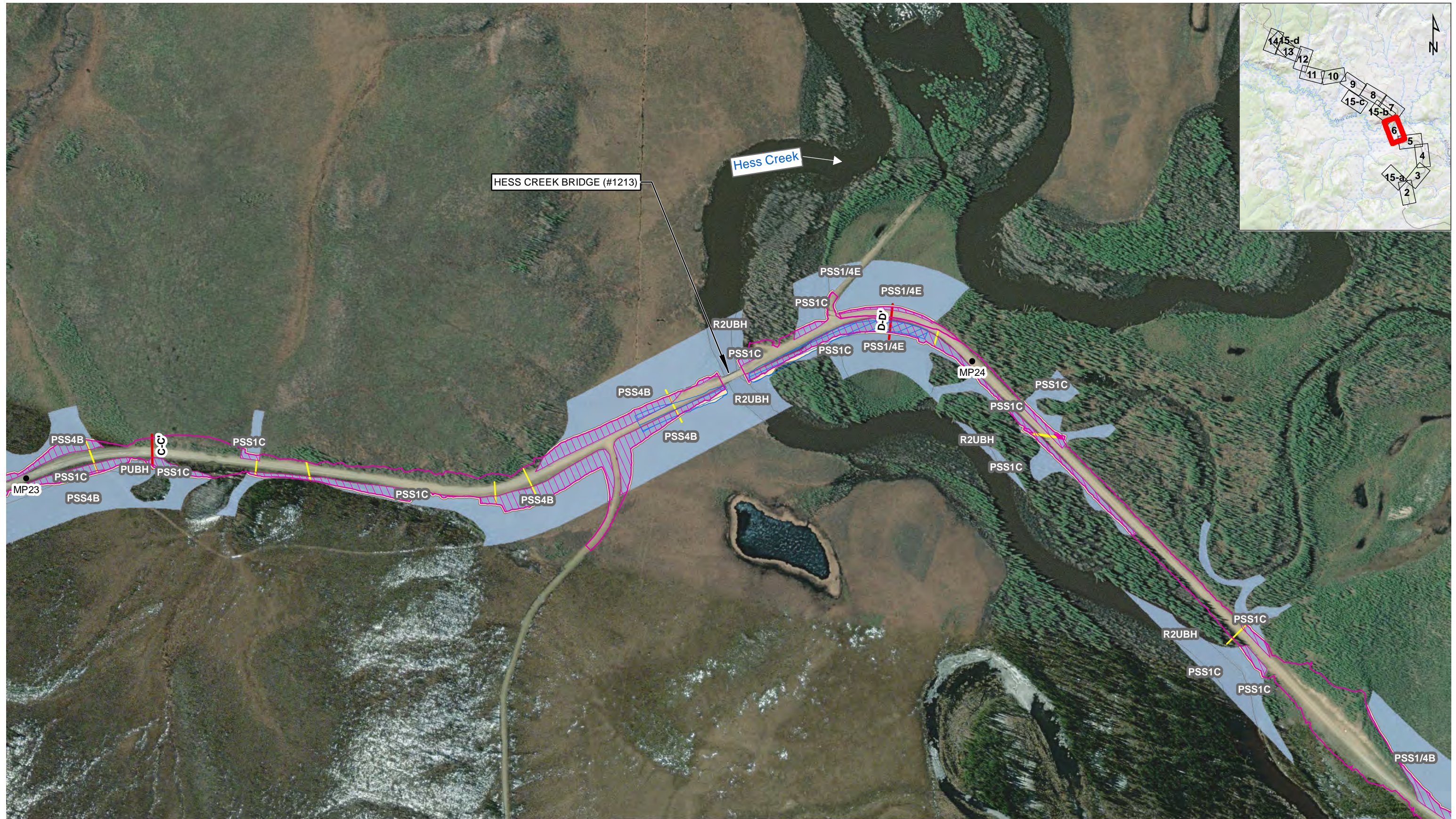
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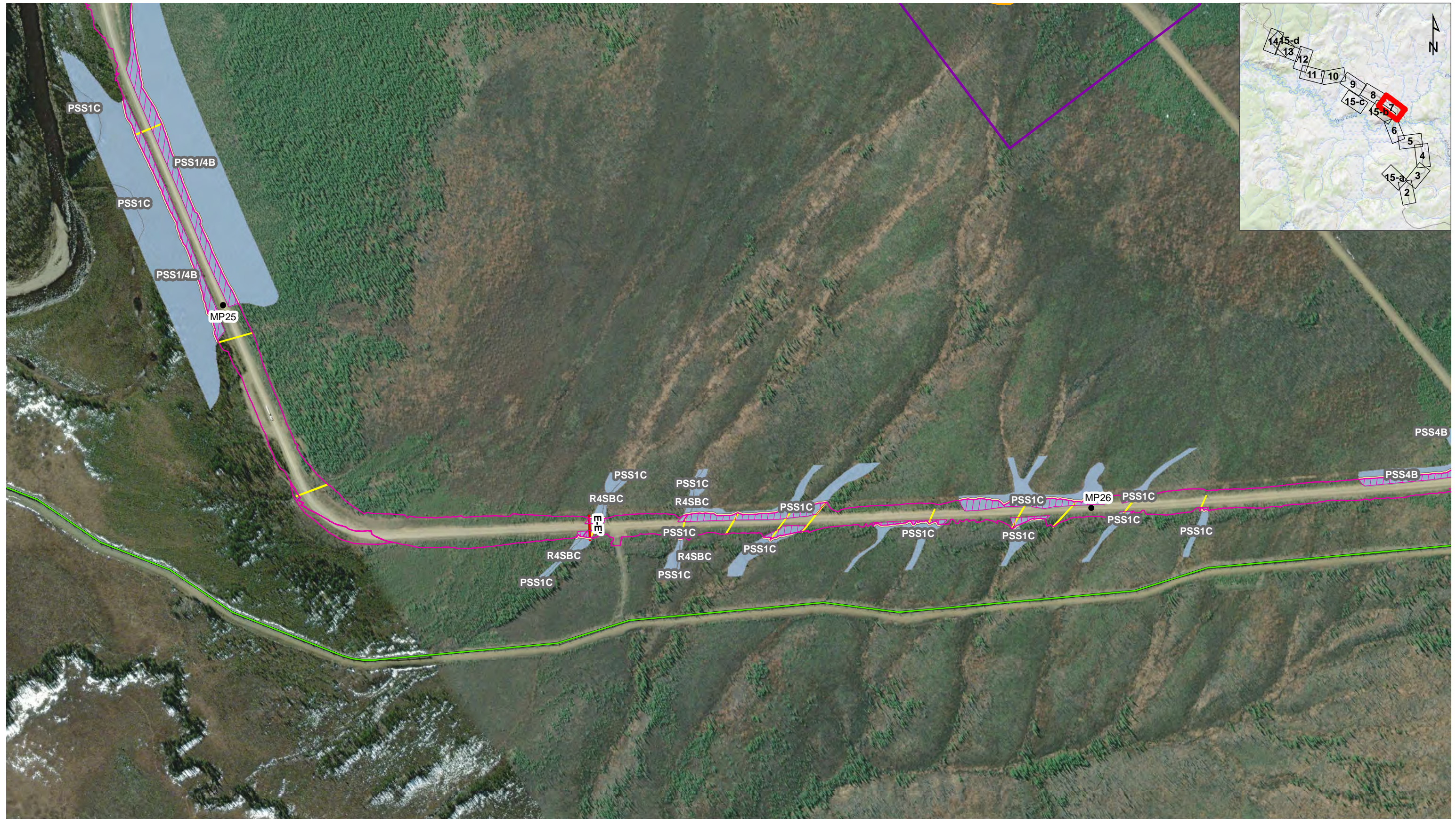
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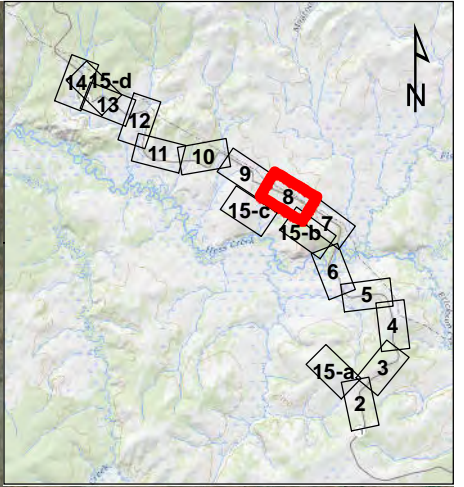
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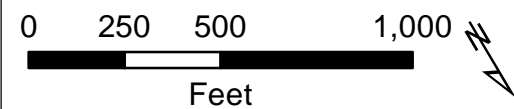
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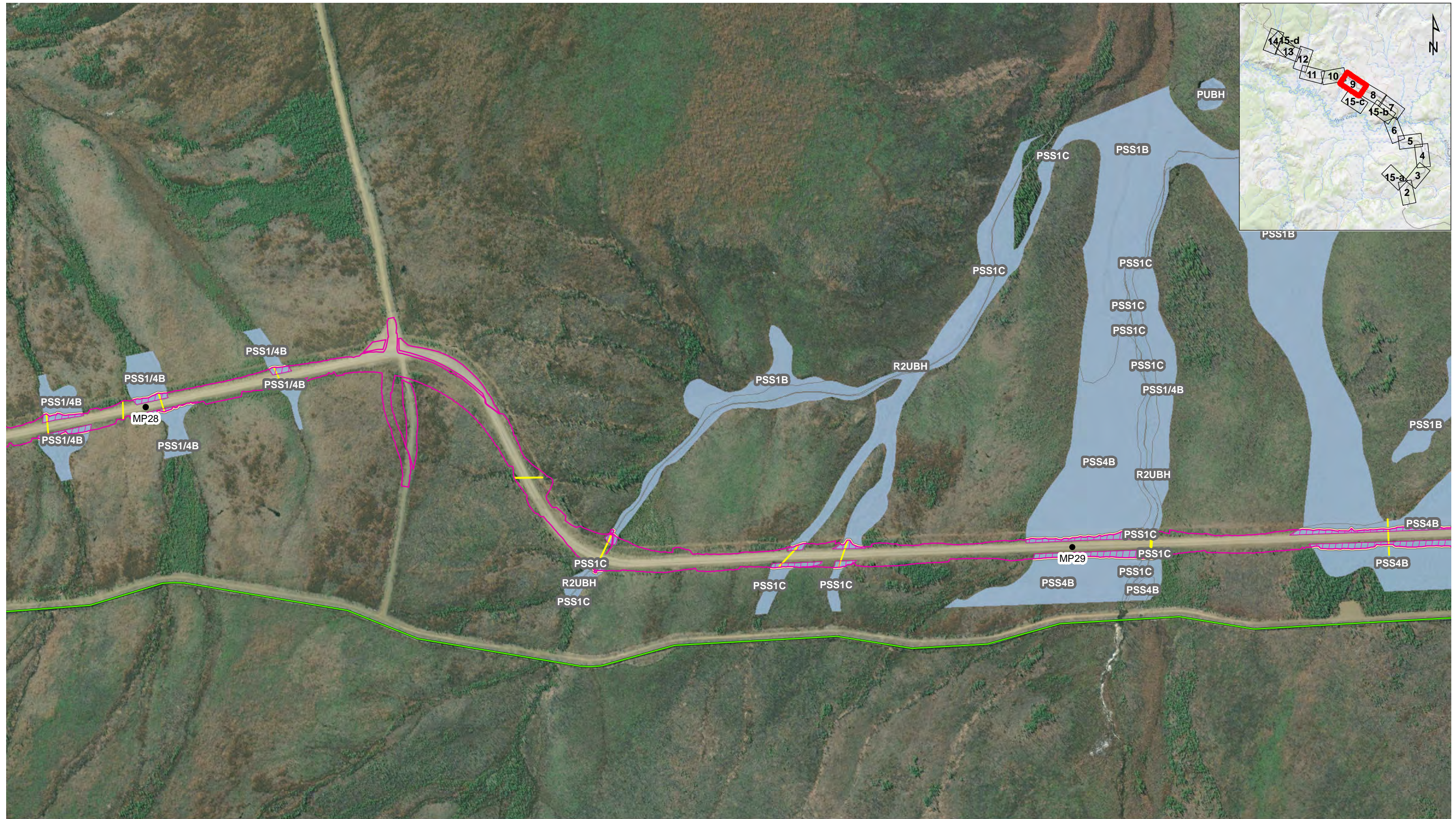
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 REF: USACE
 FIGURE: 10

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ALL LOCATIONS ARE APPROXIMATE

0 250 500 1,000

Feet

PREPARED BY: R&M CONSULTANTS, INC

Project Footprint	Bridge Detour
Project Wetlands	Typical Section
Wetland Impacts	TAPS
Temporary Wetland Impacts	Culverts

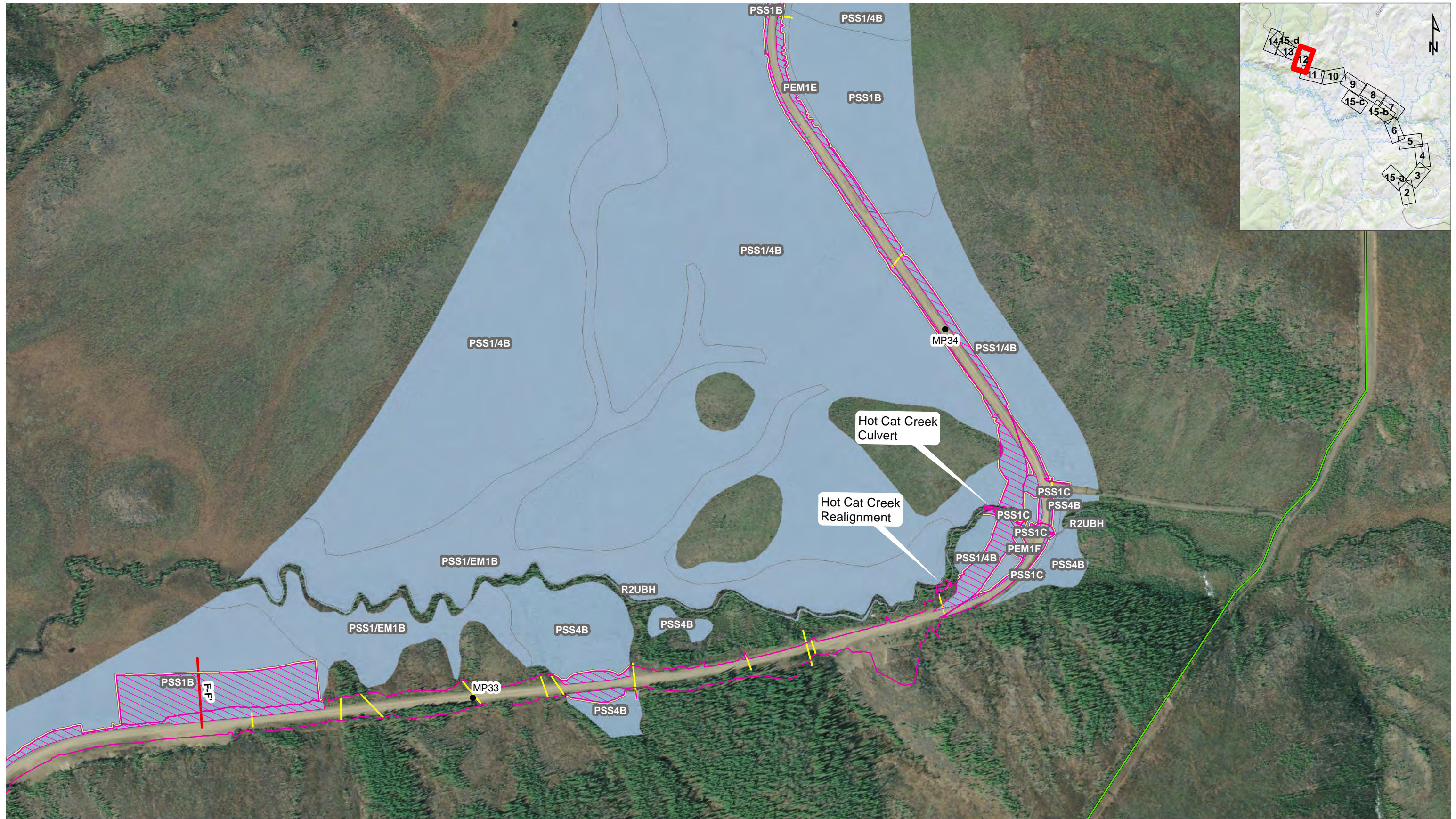
FILE NO.: POA-2022-00166
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
 TRANSPORTATION AND PUBLIC FACILITIES
 NORTHERN REGION

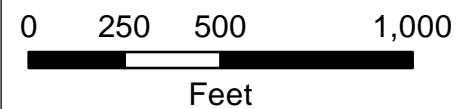
DALTON HIGHWAY MP 18-37 RECONSTRUCTION
 0652017/Z607350000

PROJ:	2328.01
DATE:	MAY 2022
REF:	USACE
FIGURE:	11

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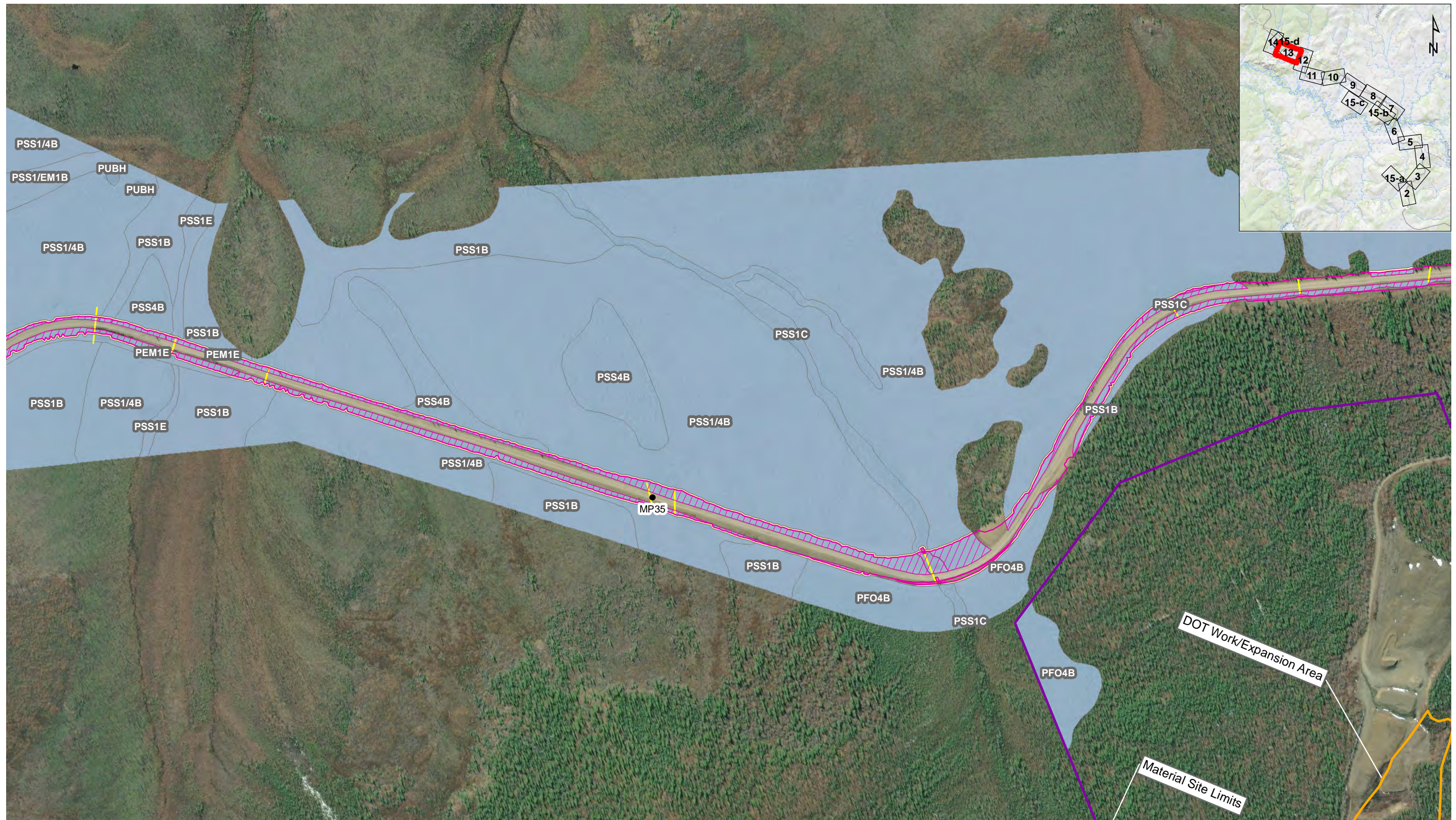
- Project Footprint
- Project Wetlands
- Wetland Impacts
- Temporary Wetland Impacts
- Bridge Detour
- Typical Section
- TAPS
- Culverts

FILE NO.: POA-2022-00166
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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 NORTHERN REGION
 DALTON HIGHWAY MP 18-37 RECONSTRUCTION
 0652017/Z607350000

PROJ: 2328.01
 DATE: MAY 2022
 REF: USACE
 FIGURE: 12

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ALL LOCATIONS ARE APPROXIMATE

0 250 500 1,000

Feet

PREPARED BY: R&M CONSULTANTS, INC

Project Footprint	Bridge Detour
Project Wetlands	Typical Section
Wetland Impacts	TAPS
Temporary Wetland Impacts	Culverts

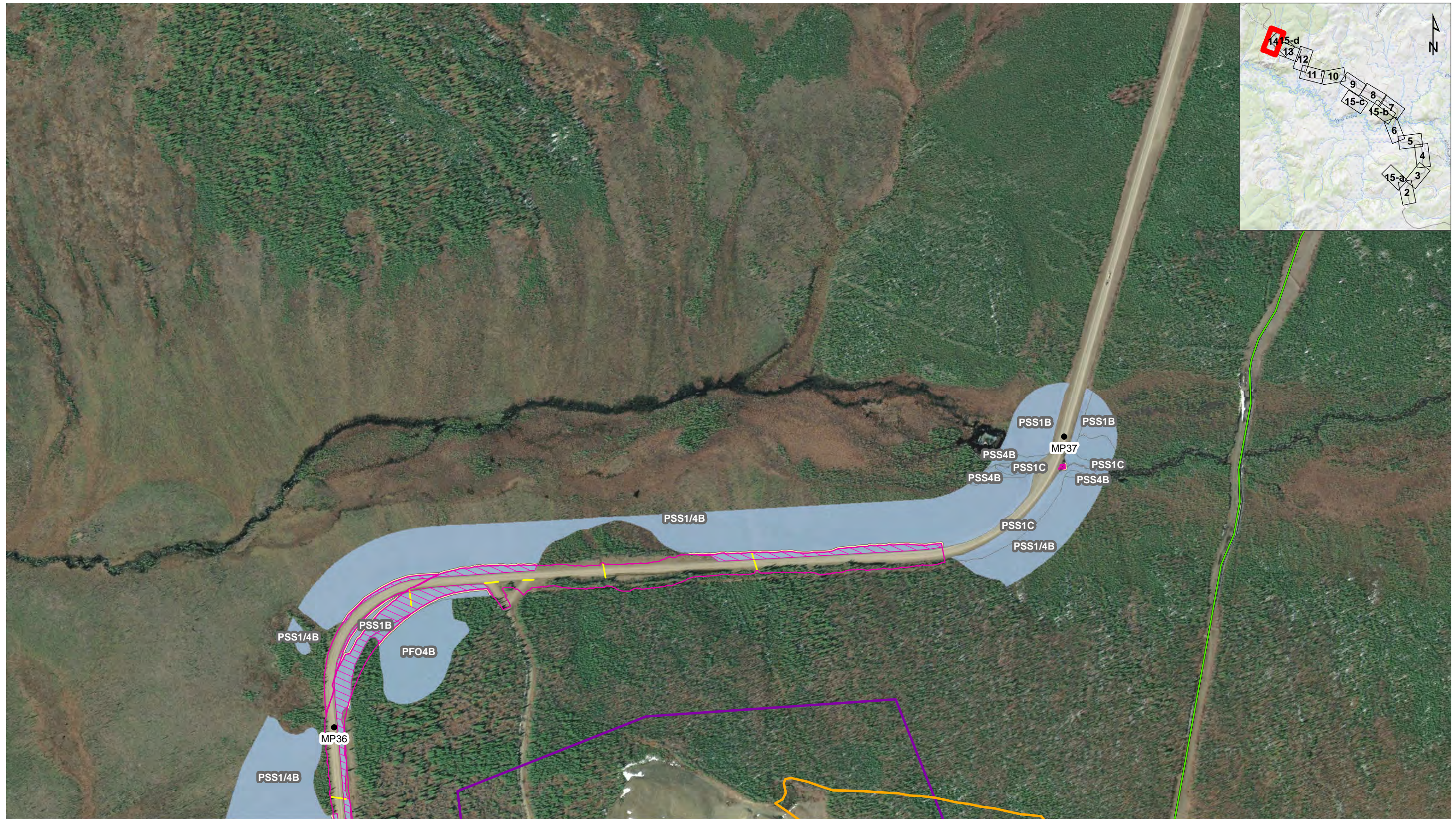
FILE NO.: POA-2022-00166
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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 NORTHERN REGION

DALTON HIGHWAY MP 18-37 RECONSTRUCTION
 0652017/Z607350000

PROJ:	2328.01
DATE:	MAY 2022
REF:	USACE
FIGURE:	13

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ALL LOCATIONS ARE APPROXIMATE

0 250 500 1,000

Feet

PREPARED BY: R&M CONSULTANTS, INC

Project Footprint	Bridge Detour
Project Wetlands	Typical Section
Wetland Impacts	TAPS
Temporary Wetland Impacts	Culverts

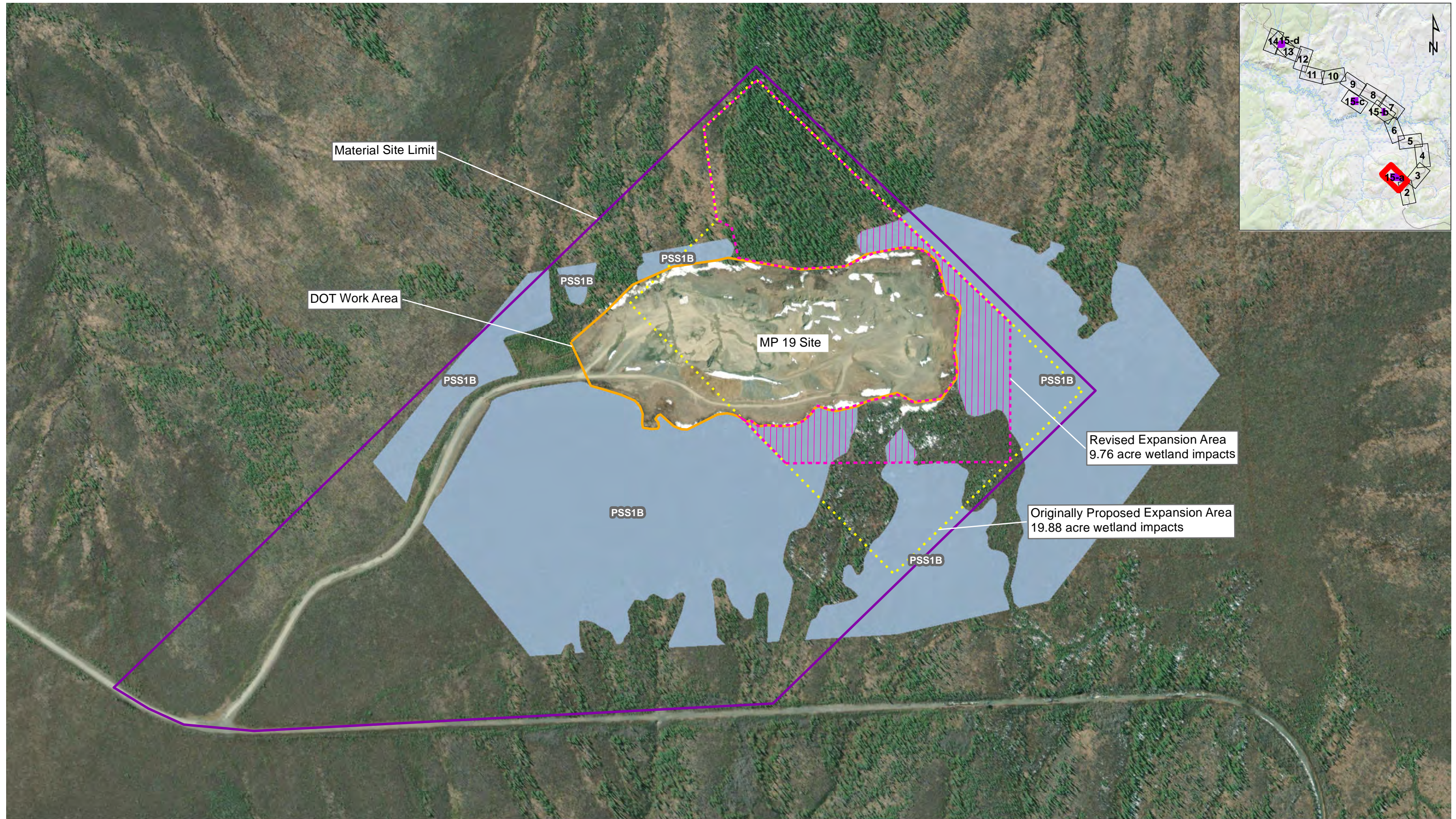
FILE NO.: POA-2022-00166
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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 NORTHERN REGION

DALTON HIGHWAY MP 18-37 RECONSTRUCTION
 0652017/Z607350000

PROJ:	2328.01
DATE:	MAY 2022
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FIGURE:	14

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ALL LOCATIONS ARE APPROXIMATE

0 250 500 1,000

Feet

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- - - - - New Expansion Area
- - - - - Original Expansion Area
- Work Area
- Material Site Boundary
- Wetland Impacts

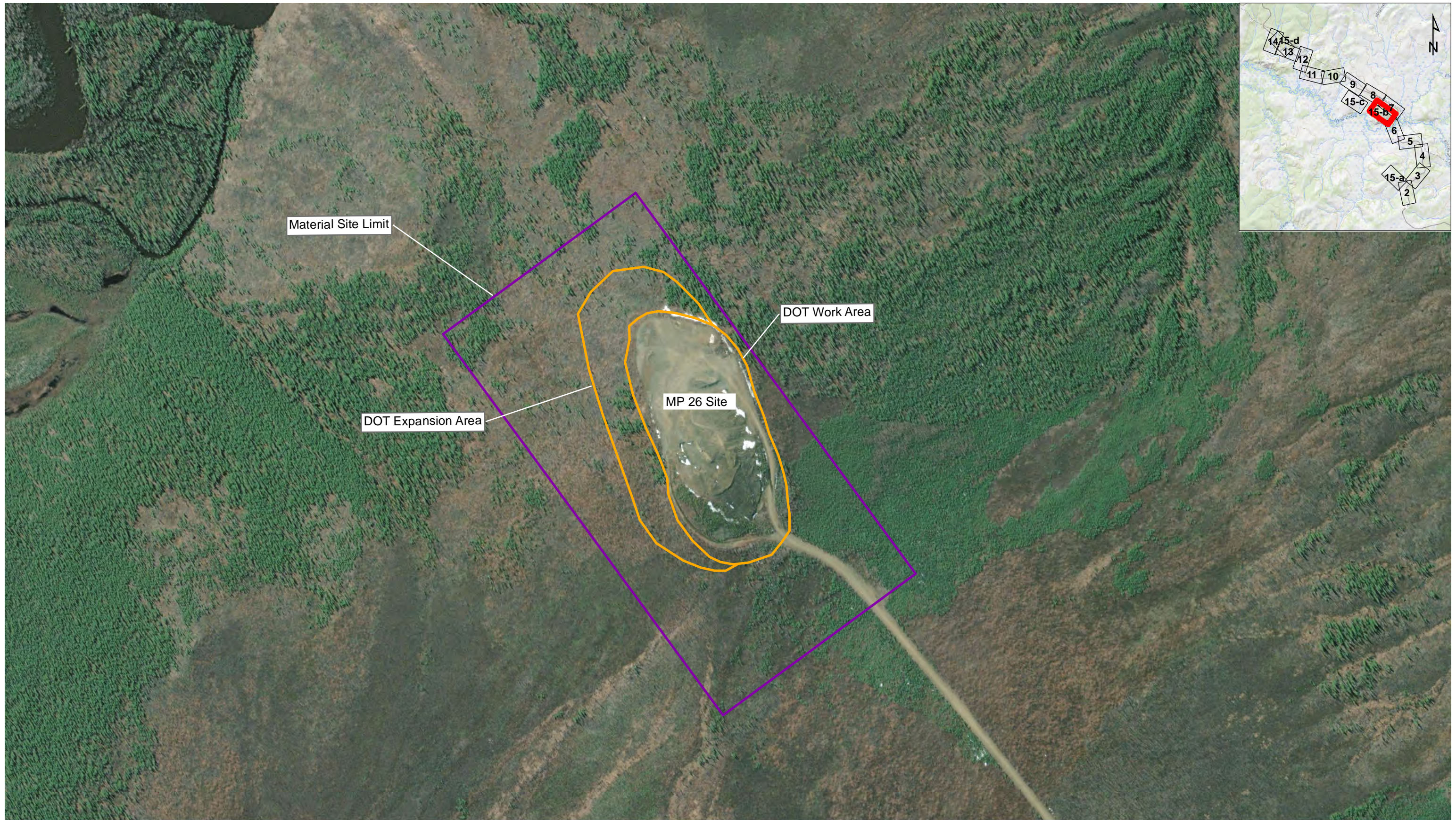
FILE NO.: POA-2022-00166
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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DALTON HIGHWAY MP 18-37 RECONSTRUCTION
 0652017/Z607350000

PROJ:	2328.01
DATE:	MAY 2022
REF:	USACE
FIGURE:	15-a

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ALL LOCATIONS ARE APPROXIMATE

0 250 500 1,000

Feet

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Project Footprint	Bridge Detour
Project Wetlands	Typical Section
Wetland Impacts	TAPS
Temporary Wetland Impacts	Culverts

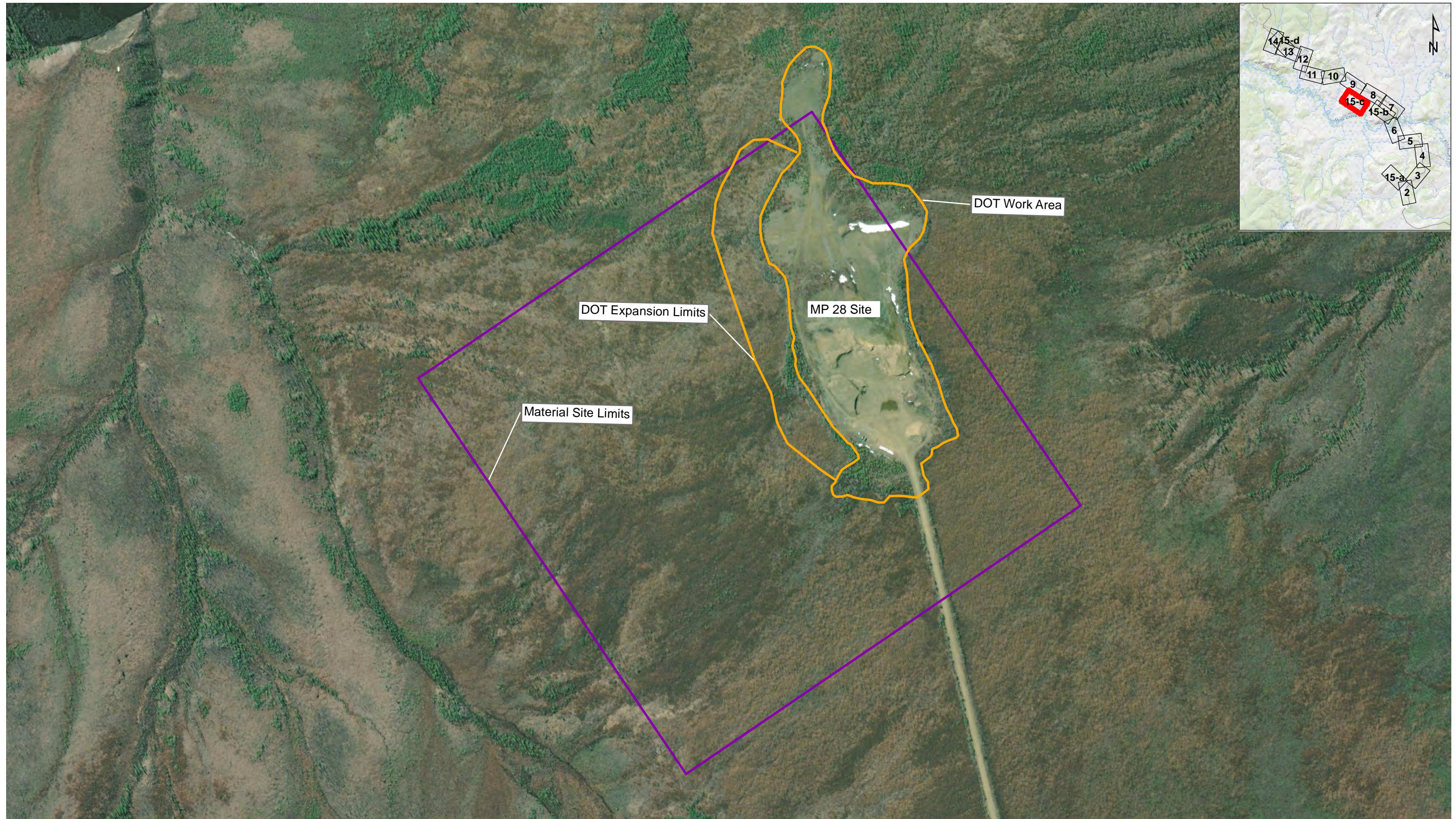
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 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

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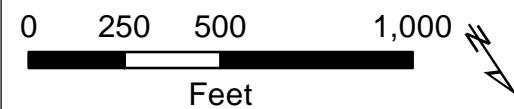
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 0652017/Z607350000

PROJ:	2328.01
DATE:	MAY 2022
REF:	USACE
FIGURE:	15-b

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- Project Footprint
- Project Wetlands
- Wetland Impacts
- Temporary Wetland Impacts
- Bridge Detour
- Typical Section
- TAPS
- Culverts

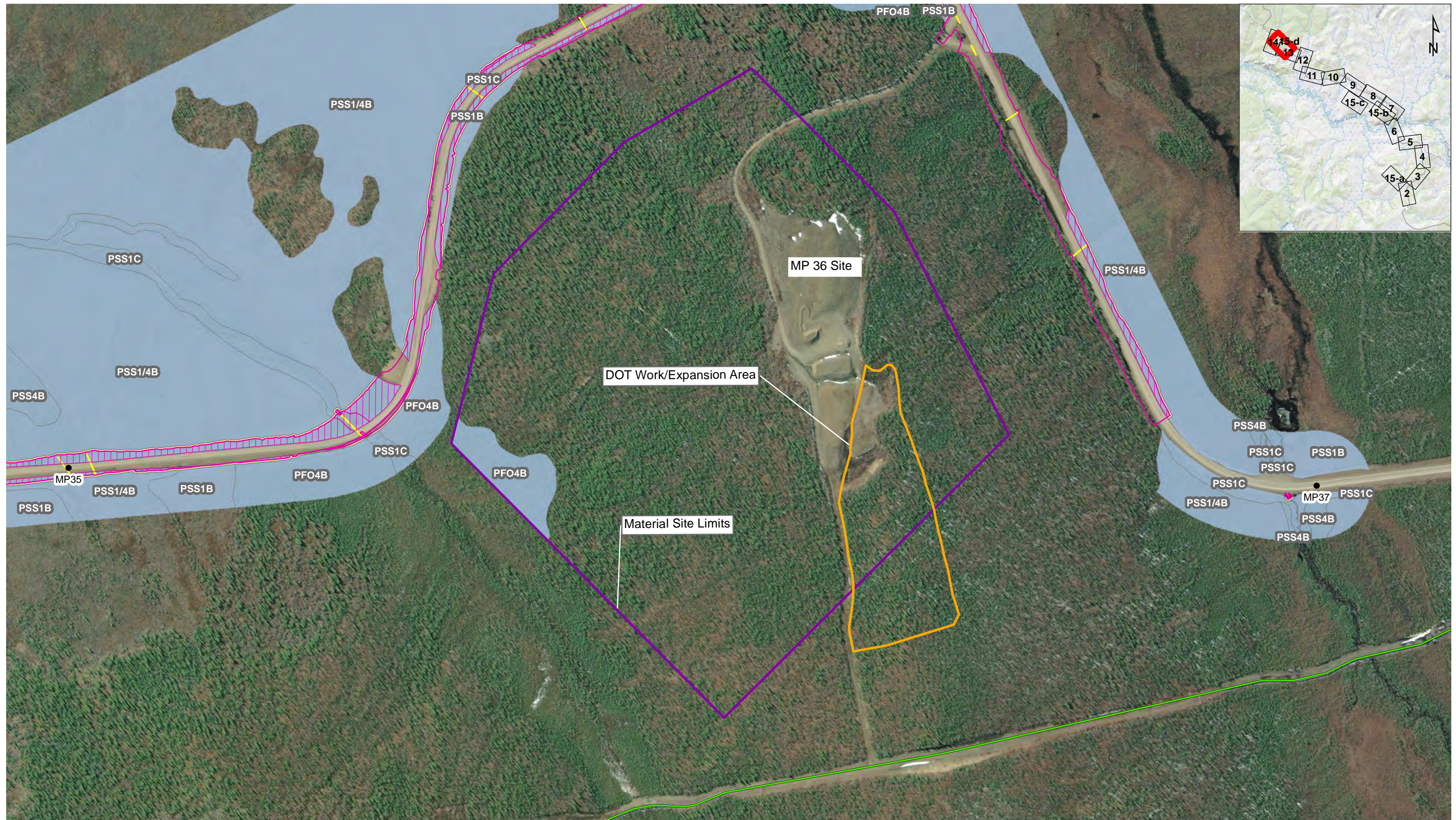
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 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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 NORTHERN REGION

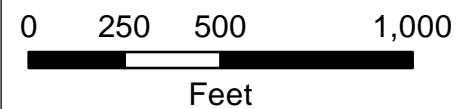
DALTON HIGHWAY MP 18-37 RECONSTRUCTION
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PROJ: 2328.01
 DATE: MAY 2022
 REF: USACE
 FIGURE: 15-c

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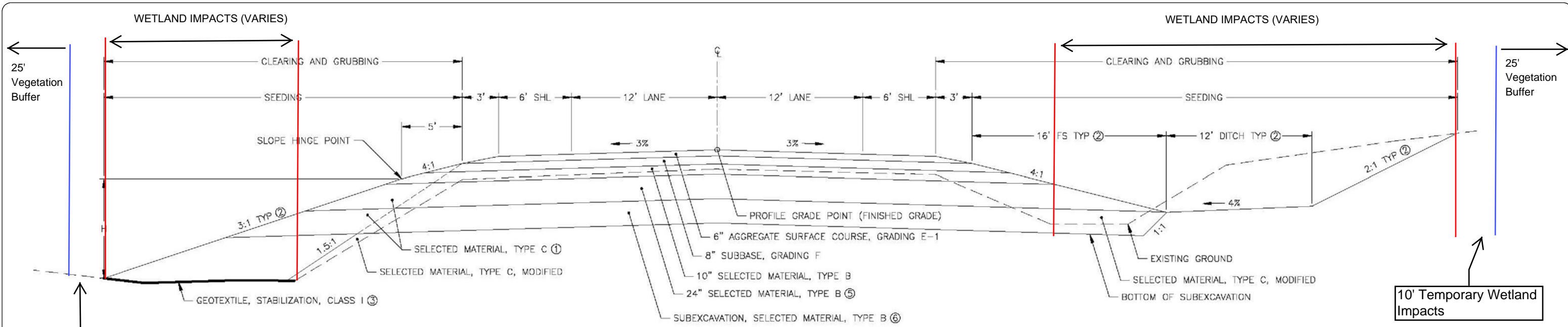
- | | |
|---------------------------|-----------------|
| Project Footprint | Bridge Detour |
| Project Wetlands | Typical Section |
| Wetland Impacts | TAPS |
| Temporary Wetland Impacts | Culverts |

FILE NO.: POA-2022-00166
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

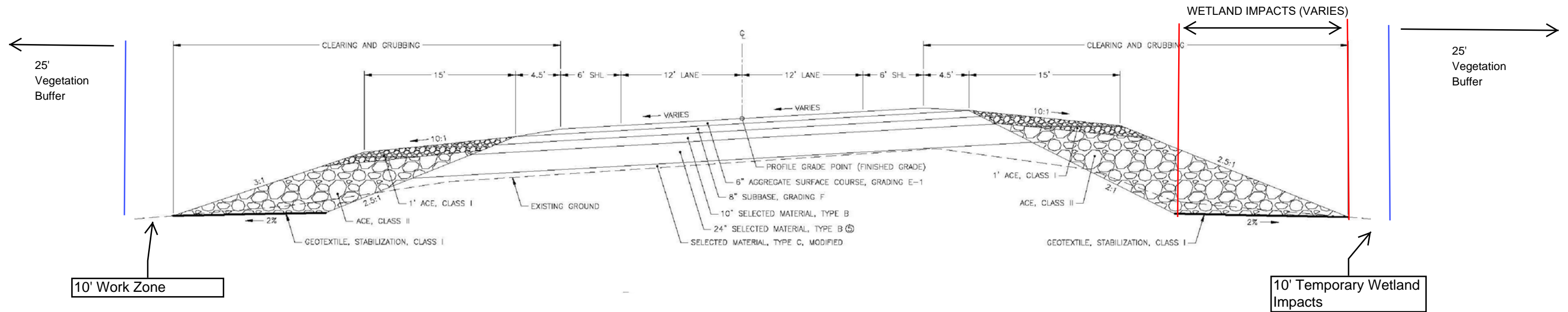
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 DALTON HIGHWAY MP 18-37 RECONSTRUCTION
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PROJ:	2328.01
DATE:	MAY 2022
REF:	USACE
FIGURE:	15-d

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A-A' - RECONSTRUCT/WIDENT EXISTING EMBANKMENT



B-B' - ACE SHOULDERS

NOT TO SCALE

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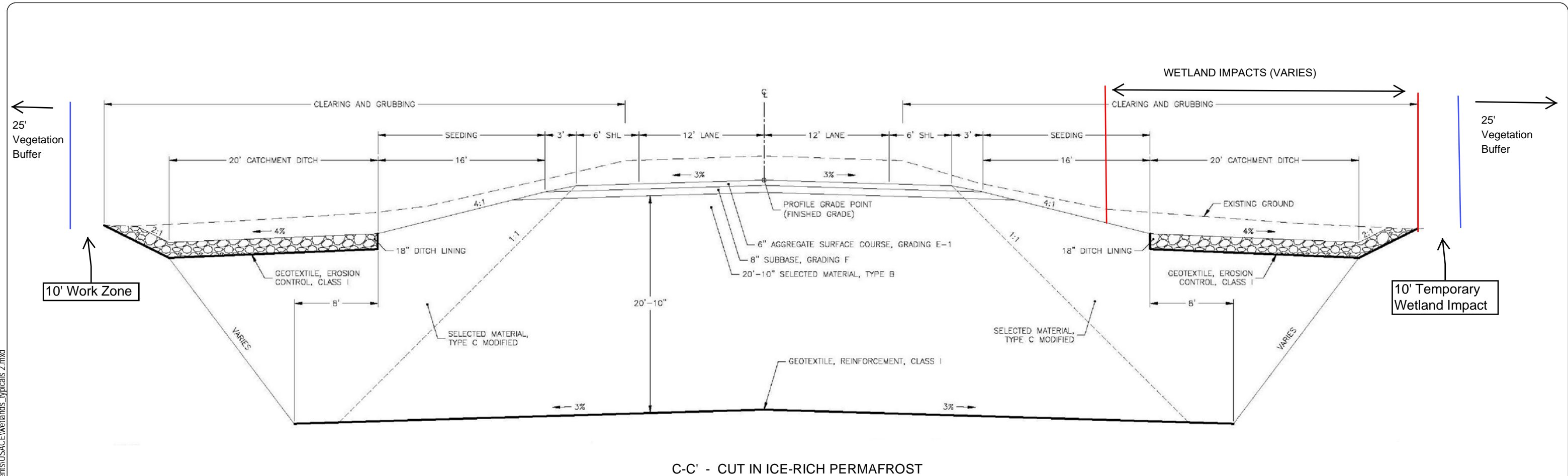
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T010N	R007W	18, 19, 30, 31, 32, 33	Livengood C-5	Fairbanks
T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

FILE NO.:
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

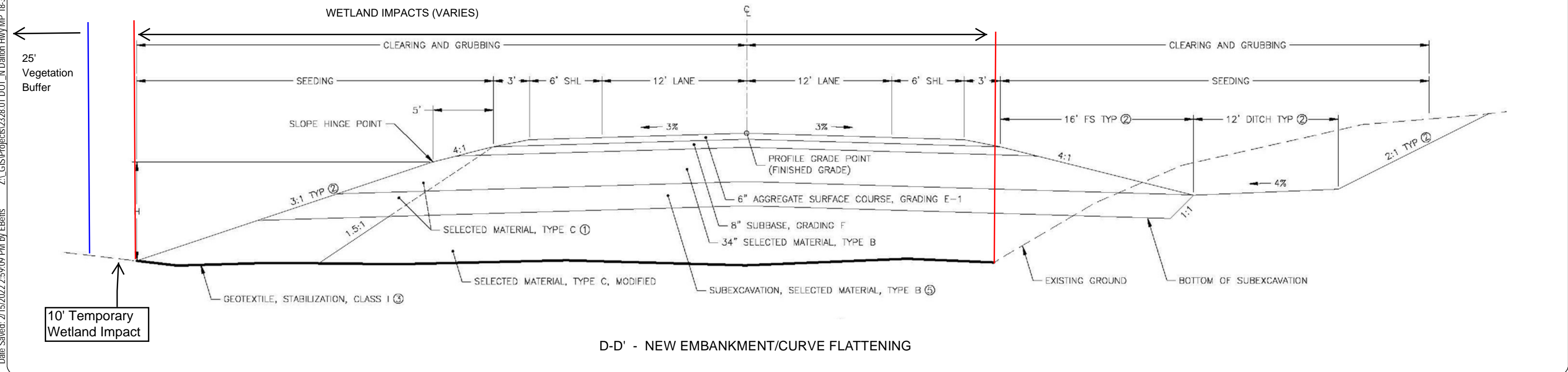
STATE OF ALASKA DEPARTMENT OF
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 NORTHERN REGION
 DALTON HIGHWAY MP 18-37 RECONSTRUCTION
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PROJ: 2328.01
 DATE: APR 2022
 REF: USACE
 FIGURE: 16

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C-C' - CUT IN ICE-RICH PERMAFROST



D-D' - NEW EMBANKMENT/CURVE FLATTENING

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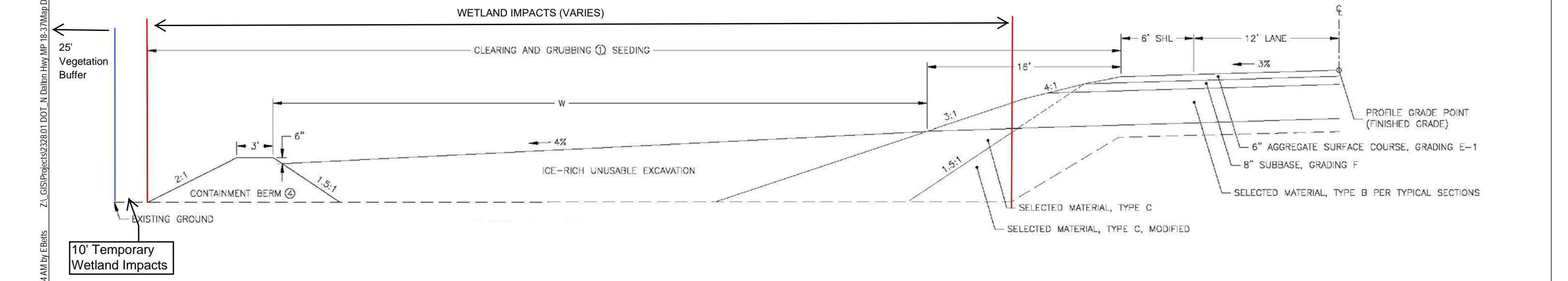
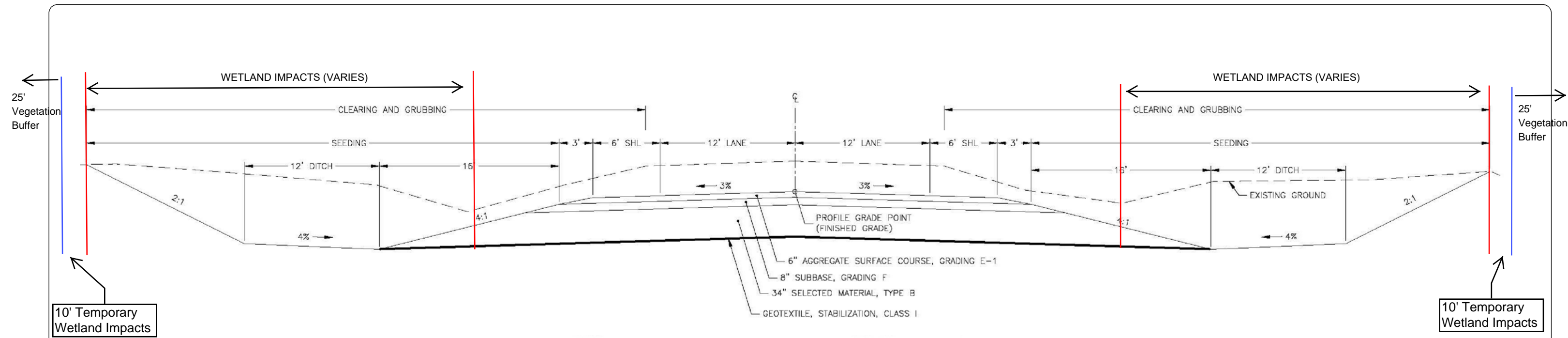
Township	Range	Section(s)	USGS Quad	Meridian
T009N	R007W	4, 7, 8, 9, 17	Livengood C-5	Fairbanks
T010N	R007W	18, 19, 30, 31, 32, 33	Livengood C-5	Fairbanks
T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

FILE NO.:
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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 NORTHERN REGION
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PROJ: 2328.01
 DATE: APR 2022
 REF: USACE
 FIGURE: 17

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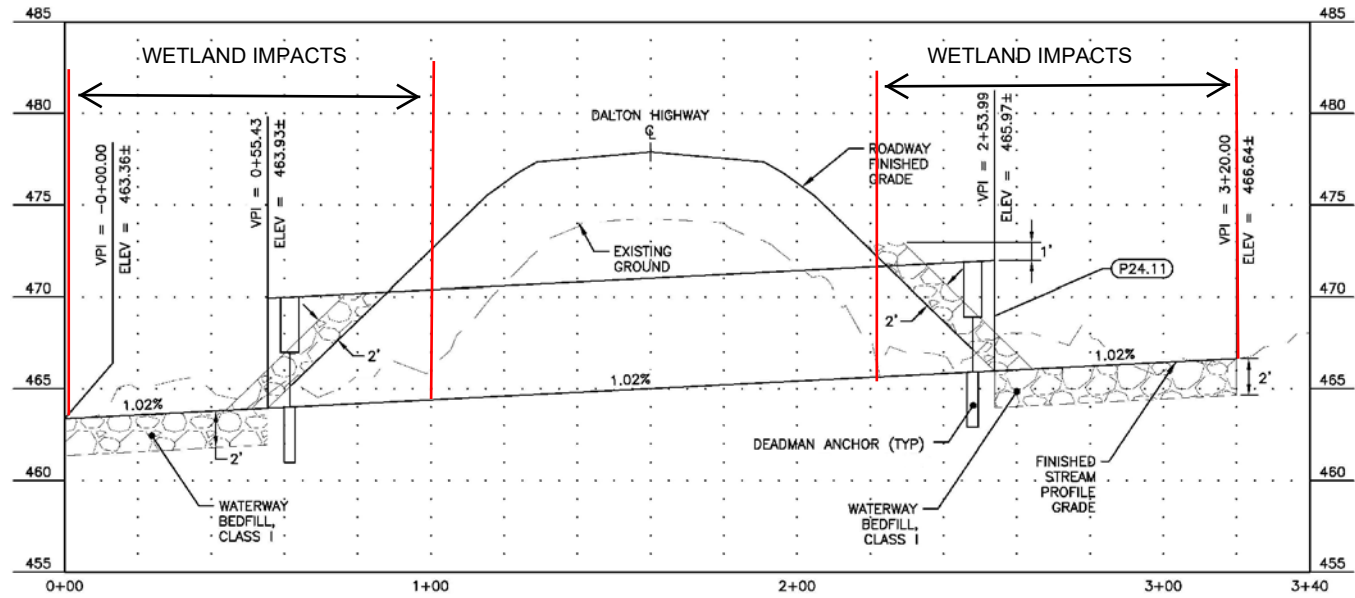
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T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
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FILE NO.:
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

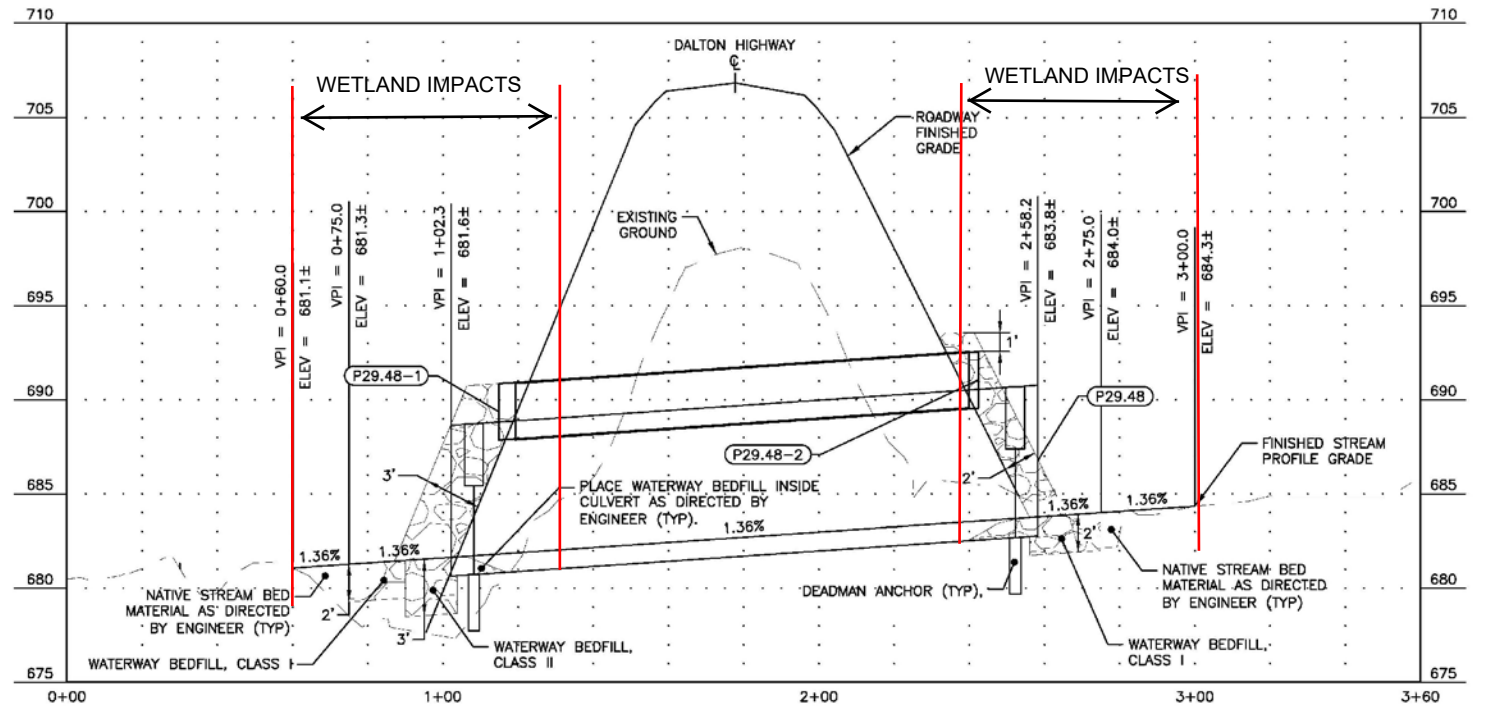
STATE OF ALASKA DEPARTMENT OF
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 NORTHERN REGION
 DALTON HIGHWAY MP 18-37 RECONSTRUCTION
 0652017/Z607350000

PROJ: 2328.01
 DATE: APR 2022
 REF: USACE
 FIGURE: 18

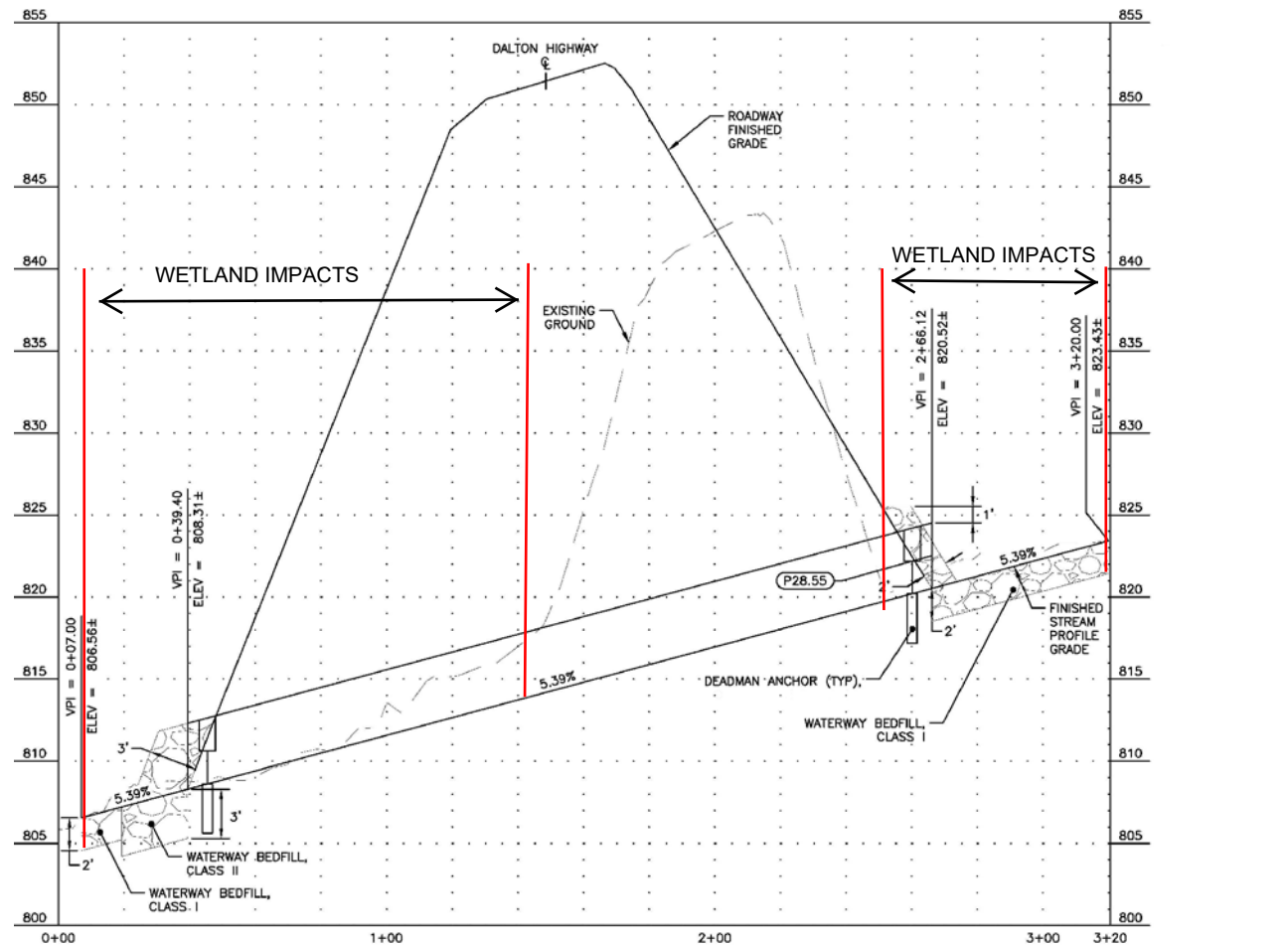
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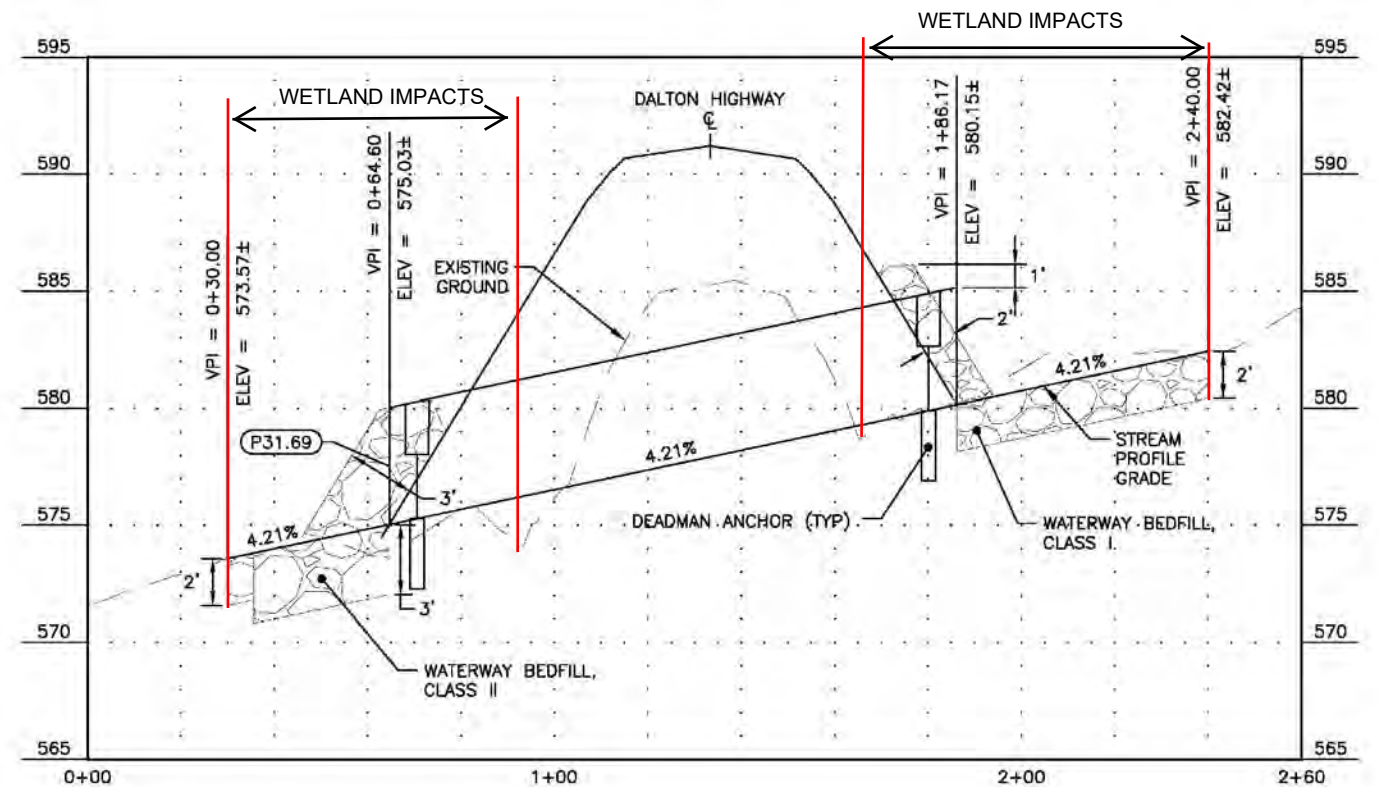
MP 24.11 - HESS CREEK OVERFLOW CULVERT



MP 29.48 - HOT DOG CREEK CULVERT



MP 28.55 - UNNAMED CREEK CULVERT



MP 31.69 - UNNAMED CREEK CULVERT

NOT TO SCALE

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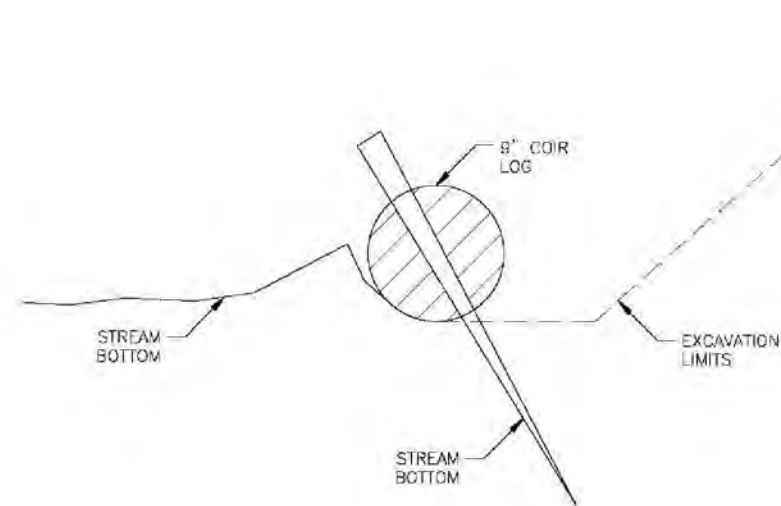
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T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

FILE NO.: POA-2022-00166
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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 0652017/Z607350000

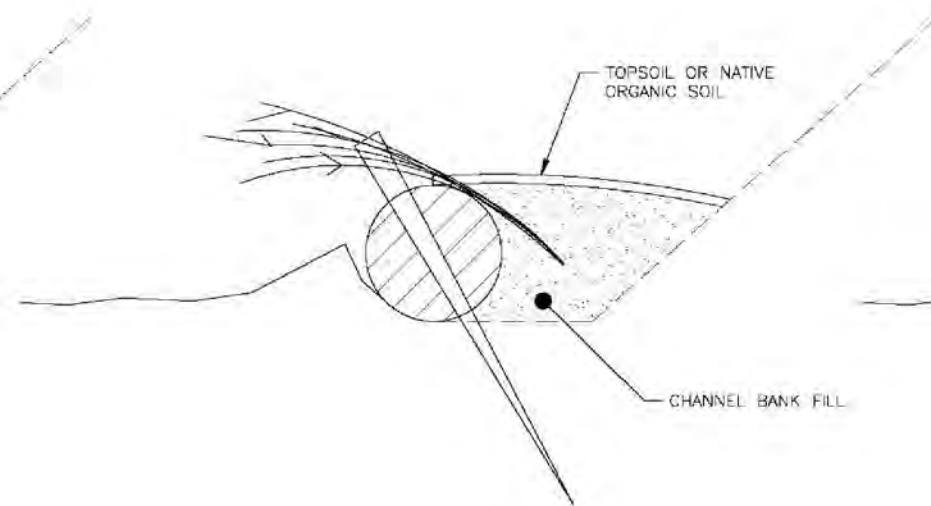
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 DATE: MAY 2022
 REF: USACE
 FIGURE: 19

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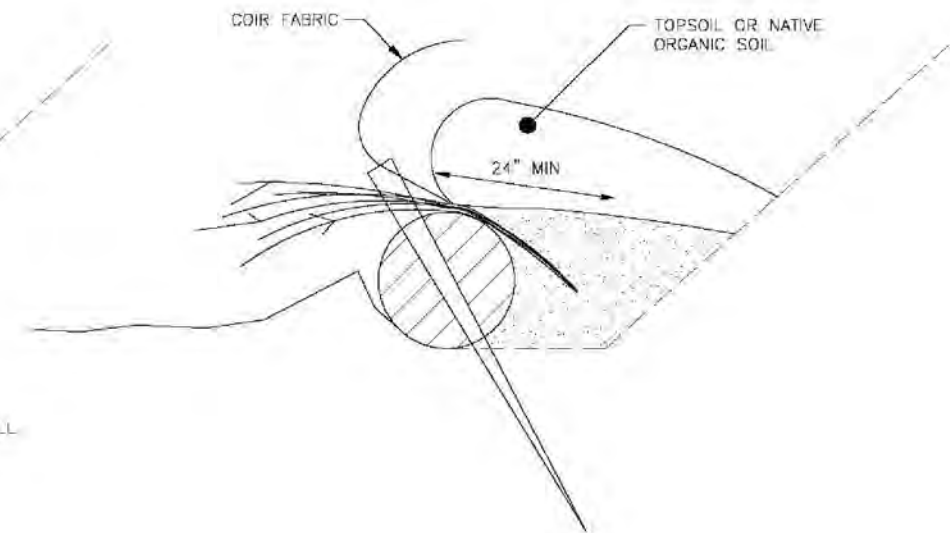
COIR LOG AND BRUSH DETAIL

STEP 1



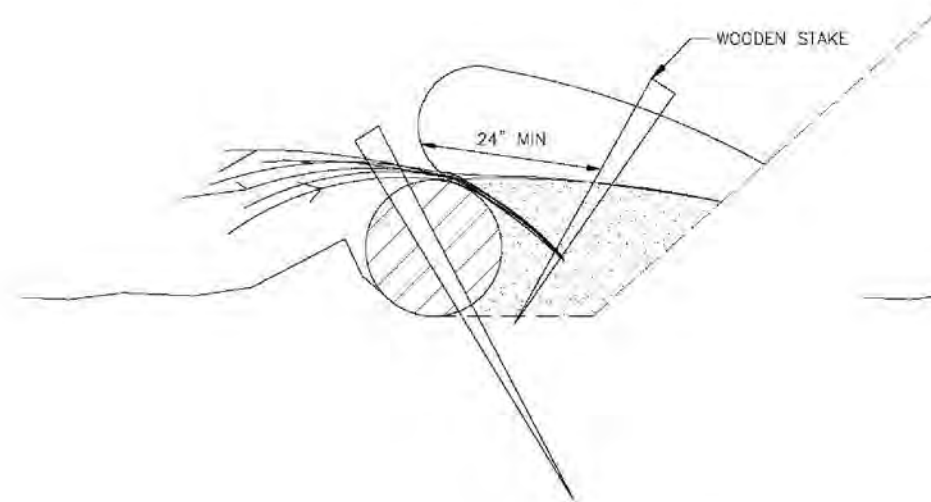
COIR LOG AND BRUSH DETAIL

STEP 2



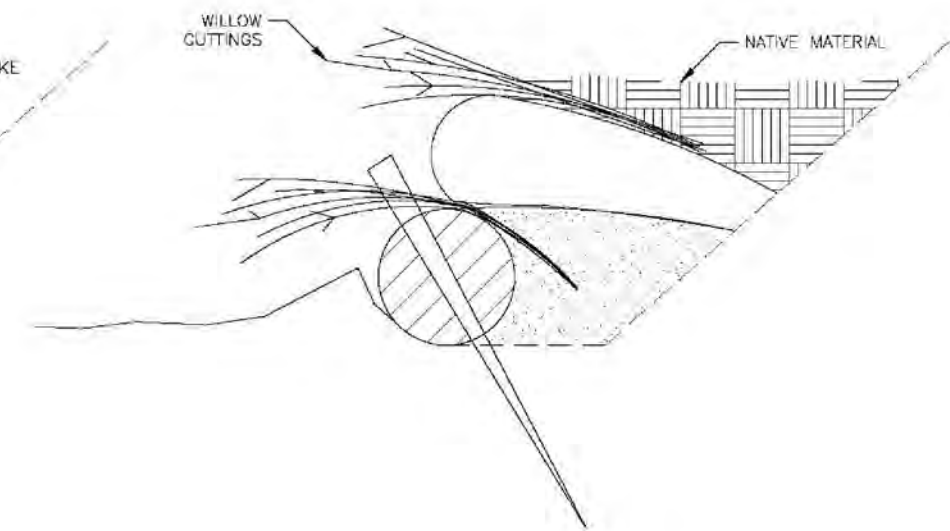
COIR LOG AND BRUSH DETAIL

STEP 3



COIR LOG AND BRUSH DETAIL

STEP 4



COIR LOG AND BRUSH DETAIL

STEP 5

STEPS:

1. INSTALL 9" COIR LOG AND SECURE WITH WOODEN STAKES.
2. BACKFILL COIR LOG WITH CHANNEL BANK FILL. CRISSCROSS LAYERS OF 15 DORMANT CUTTINGS PER FOOT OR 10 ROOTED CUTTINGS PER FOOT; DEPOSIT TOPSOIL OVER CUTTINGS AND WATER LIBERALLY. COMPRESS SOIL TO 2-4 INCHES.
3. PLACE COIR FABRIC WRAP. EMBED FABRIC WRAP 24" (MIN.). PLACE TOPSOIL TO A MINIMUM DEPTH OF 12". WRAP COIR FABRIC OVER PLACED TOPSOIL.
4. ANCHOR BIODEGRADABLE FABRIC WRAP WITH WOODEN STAKES.
5. CRISSCROSS LAYERS OF 15 DORMANT CUTTINGS PER FOOT OR 10 ROOTED CUTTINGS PER FOOT. DEPOSIT NATIVE MATERIAL OVER CUTTINGS AND WATER LIBERALLY.

MP 33.74 - HOT CAT CREEK DETAIL

NOT TO SCALE

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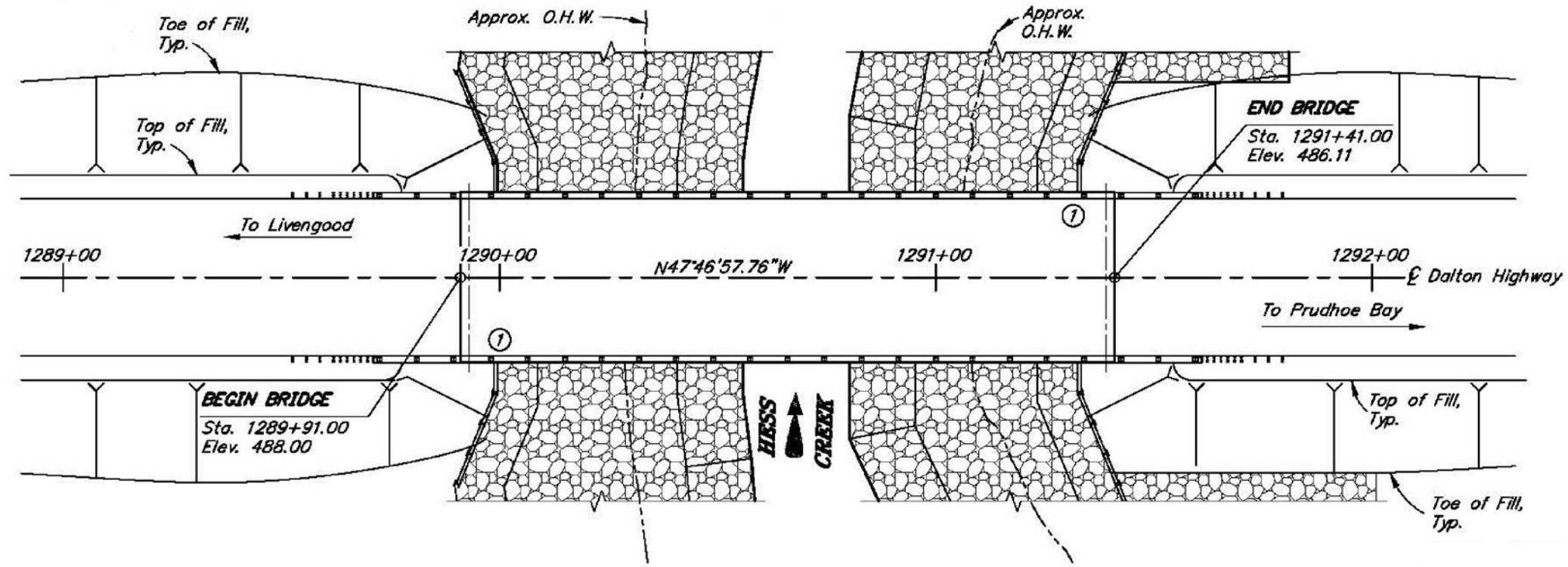
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T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

FILE NO.: POA-2022-00166
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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 DALTON HIGHWAY MP 18-37 RECONSTRUCTION
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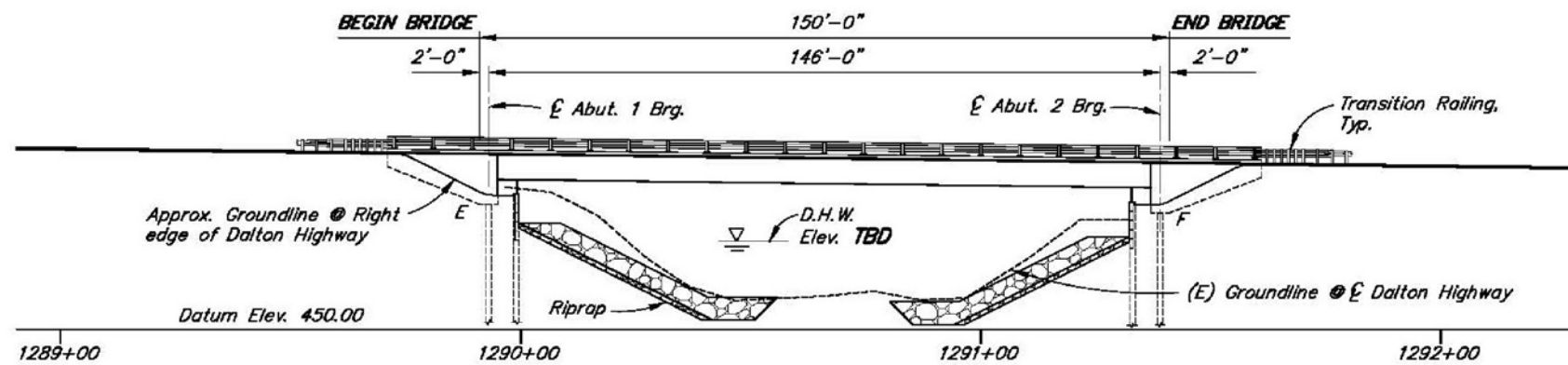
PROJ: 2328.01
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 REF: USACE
 FIGURE: 20-b

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0.28 acres of fill below O.H.W
2,393 cy of riprap

HESS CREEK BRIDGE REPLACEMENT - PLAN VIEW



HESS CREEK BRIDGE REPLACEMENT - CROSS-SECTION

NOT TO SCALE

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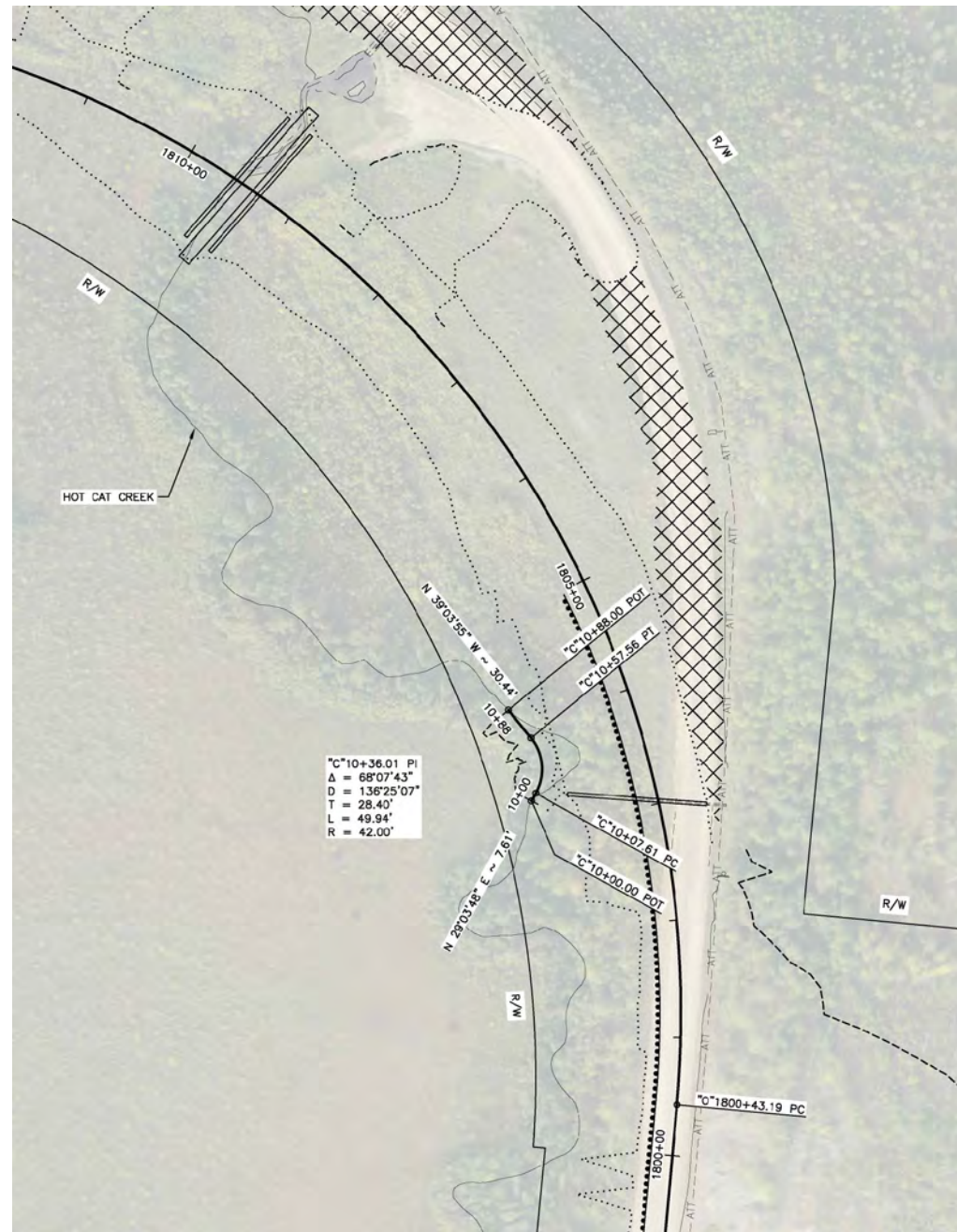
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T010N	R007W	18, 19, 30, 31, 32, 33	Livengood C-5	Fairbanks
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T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

FILE NO.:
WATERWAY: HESS CREEK
PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

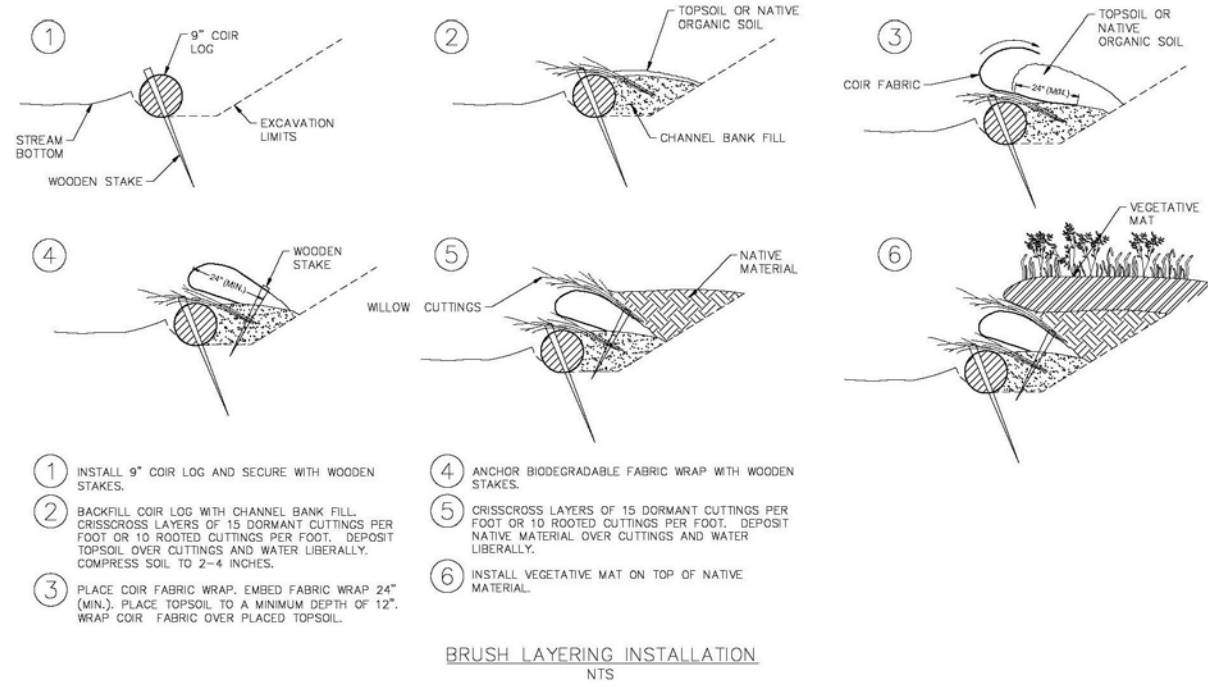
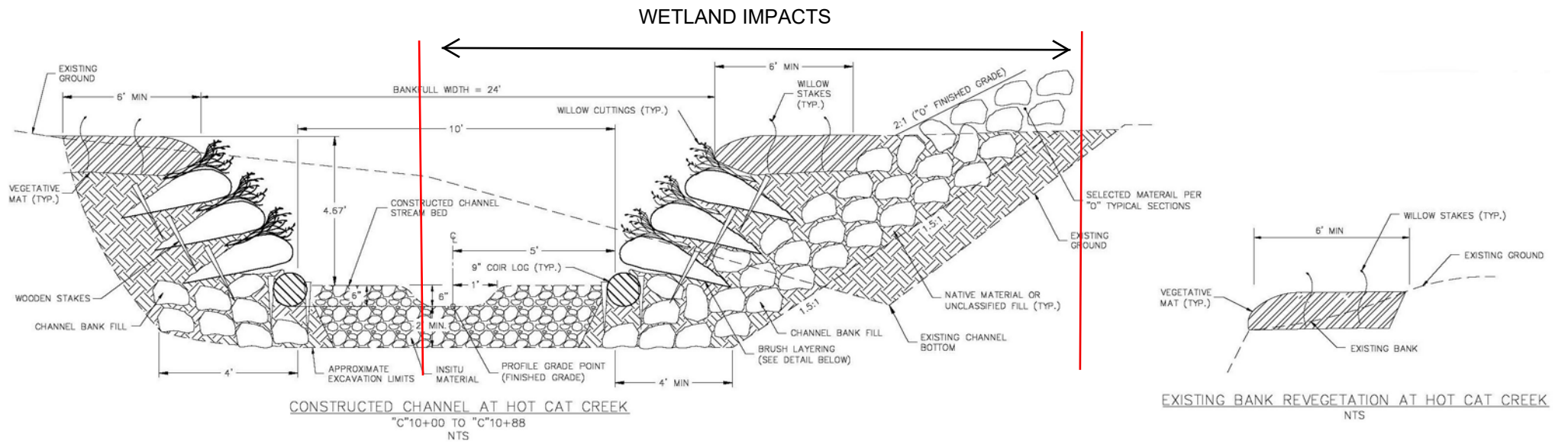
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PROJ: 2328.01
DATE: APR 2022
REF: USACE
FIGURE: 21

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HOT CAT CREEK CHANNEL REALIGNMENT



- CHANNEL REALIGNMENT NOTES:**
- EXCAVATE INSITU MATERIAL AS NECESSARY TO INSTALL CHANNEL BANK FILL. BACKFILL WITH INSITU MATERIAL TO FINAL CHANNEL ELEVATIONS.
 - CONSTRUCT STREAMBED AND BANKS LEAVING A NON-UNIFORM ROUGH SURFACE.
 - CHANNEL BANK FILL: PROVIDE WIDTH OF 4' ON THE LEFT BANK AND MINIMUM WIDTH OF 4' OF RIGHT BANK.
 - WHEN "O" FINISHED GRADE IS WITHIN 10' OF RIGHT BANK, EXTEND BANK FILL 4' UP FORSLOPE.
 - CONSTRUCT BANKS USING CLASS II RIPRAP. FILL VOIDS WITH CHANNEL BED FILL.
 - SELECT LARGER FRACTION ($\geq 12"$ DIAMETER) OF CLASS II RIPRAP FOR FOOTER ROCKS (ROCKS WITHIN 3' OF THE BOTTOM OF EXCAVATION).
 - SALVAGE AND REUSE EXISTING VEGETATIVE MAT WITH LIVING WILLOWS ADJACENT TO EXISTING CHANNEL.
 - VEGETATIVE MAT TO HAVE MINIMUM THICKNESS OF 12 INCHES.
 - OMIT WILLOW STAKES IF VEGETATIVE MAT INCLUDES LIVE WILLOWS AS DIRECTED BY THE ENGINEER.
 - REFER TO SECTION 647 CHANNEL REALIGNMENT OF PROJECT SPECIFICATIONS.

HOT CAT CREEK CHANNEL REALIGNMENT DETAILS

NOT TO SCALE

PREPARED BY: R&M CONSULTANTS, INC

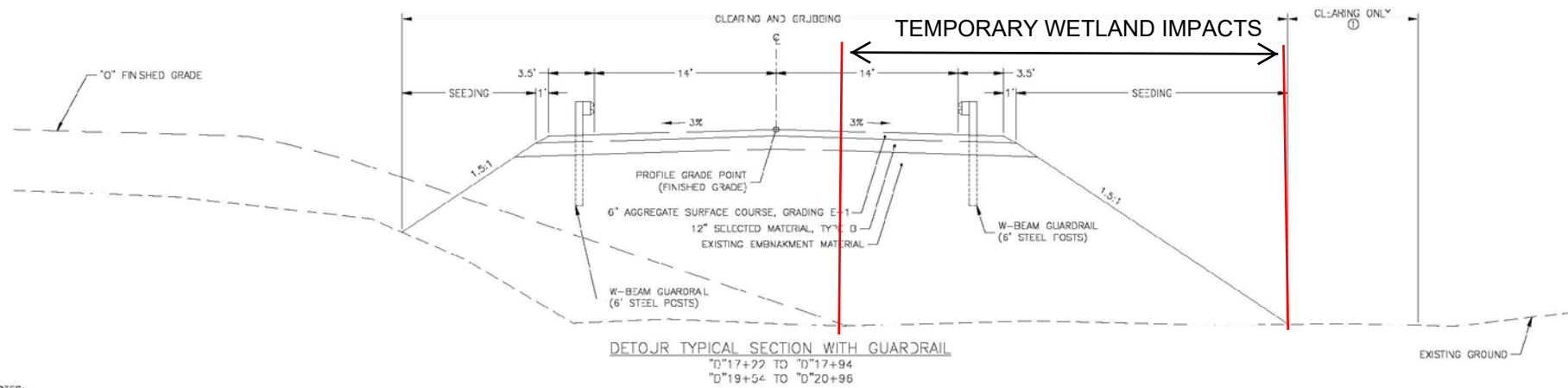
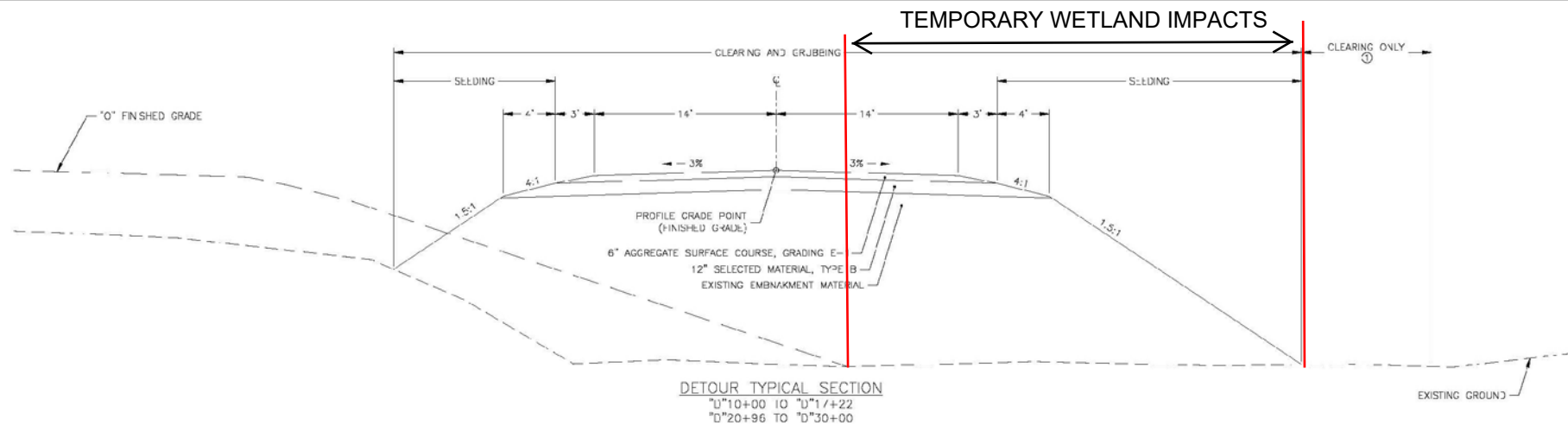
Township	Range	Section(s)	USGS Quad	Meridian
T009N	R007W	4, 7, 8, 9, 17	Livengood C-5	Fairbanks
T010N	R007W	18, 19, 30, 31, 32, 33	Livengood C-5	Fairbanks
T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

FILE NO.:
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

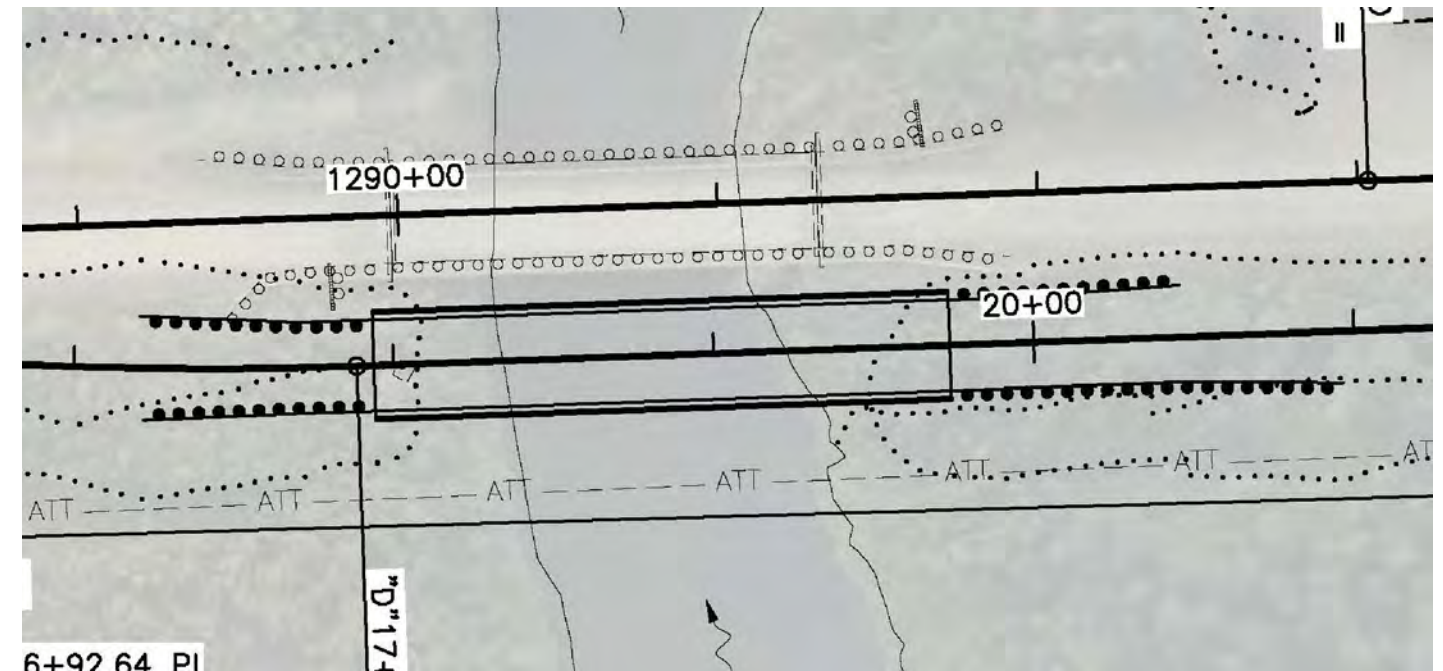
STATE OF ALASKA DEPARTMENT OF
 TRANSPORTATION AND PUBLIC FACILITIES
 NORTHERN REGION
 DALTON HIGHWAY MP 18-37 RECONSTRUCTION
 0652017/Z607350000

PROJ: 2328.01
 DATE: MAY 2022
 REF: USACE
 FIGURE: 22

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- NOTES:**
1. CLEAR 10 FT BEYOND TOE OF SLOPE OR TO ROW LIMITS, WHICHEVER IS LESS.
 2. TYPICAL SECTION WITH GUARDRAIL DOES NOT REPRESENT WIDENING FOR END TERMINALS. CONSULT END TERMINAL WIDENINGS PER STANDARD DRAWING C-20.12 ON SHEET V11.
 3. UPON REMOVAL OF TEMPORARY CROSSING, REMOVE ALL DETOUR FILL BEYOND "D" FINISHED GRADE SLOPE LIMITS AND REINCORPORATE INTO NEW EMBANKMENT. THIS WORK WILL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO PAY ITEM 520.0001.0000.
 4. STOCKPILE GRUBBING MATERIAL WITHIN THE PROJECT LIMITS, BUT NOT IN WETLAND AREAS. UPON REMOVAL OF TEMPORARY CROSSING AND DETOUR FILL, SPREAD GRUBBING MATERIAL OVER DISTURBED GROUND BEYOND TOE OF "D" FINISHED GRADE AND SEED PER SECTION 618. STOCKPILING AND SPREADING OF GRUBBING MATERIAL WILL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO PAY ITEM 520.0001.0000.



HESS CREEK BRIDGE DETOUR - PLAN VIEW

NOT TO SCALE

PREPARED BY: R&M CONSULTANTS, INC

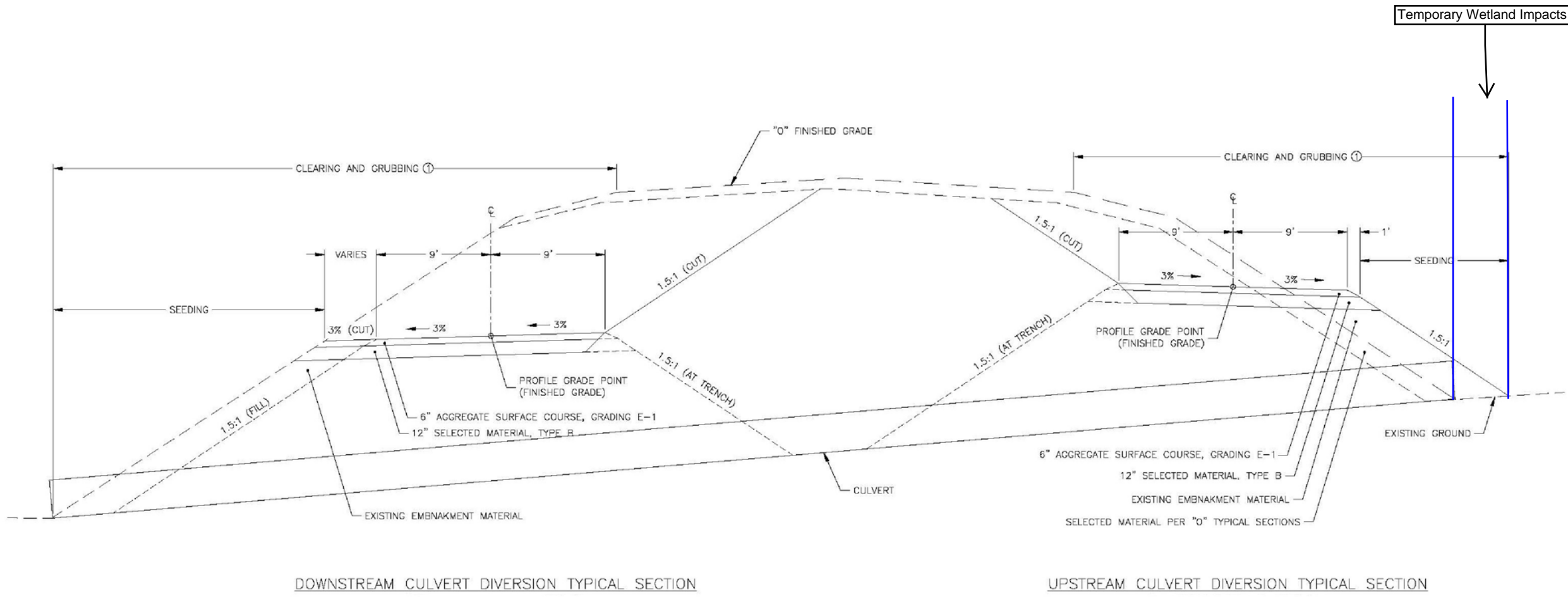
Township	Range	Section(s)	USGS Quad	Meridian
T009N	R007W	4, 7, 8, 9, 17	Livengood C-5	Fairbanks
T010N	R007W	18, 19, 30, 31, 32, 33	Livengood C-5	Fairbanks
T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

FILE NO.:
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

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PROJ: 2328.01
 DATE: APR 2022
 REF: USACE
 FIGURE: 23

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NOTES:

- ① CLEAR 10-FT BEYOND TOE OF SLOPE OR TO ROW LIMITS, WHICHEVER IS LESS.
2. UPON COMPLETION OF CULVERT INSTALLATION, REMOVE ALL DIVERSION FILL BEYOND "0" FINISHED GRADE SLOPE LIMITS AND REINCORPORATE INTO NEW EMBANKMENT. THIS WORK WILL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO PAY ITEMS 203.0003.0000 AND 203.0006.0000.
3. STOCKPILE GRUBBING MATERIAL WITHIN THE PROJECT LIMITS, BUT NOT IN WETLAND AREAS. UPON COMPLETION OF CULVERT INSTALLATION AND REMOVAL OF DIVERSION FILL, SPREAD GRUBBING MATERIAL OVER DISTURBED GROUND BEYOND TOE OF "0" FINISHED GRADE AND SEED PER SECTION 618. STOCKPILING AND SPREADING OF GRUBBING MATERIAL WILL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY TO PAY ITEM 201.0009.0000.

HALF-WIDTH CONSTRUCTION - TYPICAL SECTION

NOT TO SCALE

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Township	Range	Section(s)	USGS Quad	Meridian
T009N	R007W	4, 7, 8, 9, 17	Livengood C-5	Fairbanks
T010N	R007W	18, 19, 30, 31, 32, 33	Livengood C-5	Fairbanks
T010N	R008W	3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 24	Livengood C-5	Fairbanks
T011N	R008W	31	Livengood C-5	Fairbanks
T011N	R009W	25, 26, 35, 36	Livengood C-5	Fairbanks
T011N	R009W	25, 26	Livengood D-5	Fairbanks

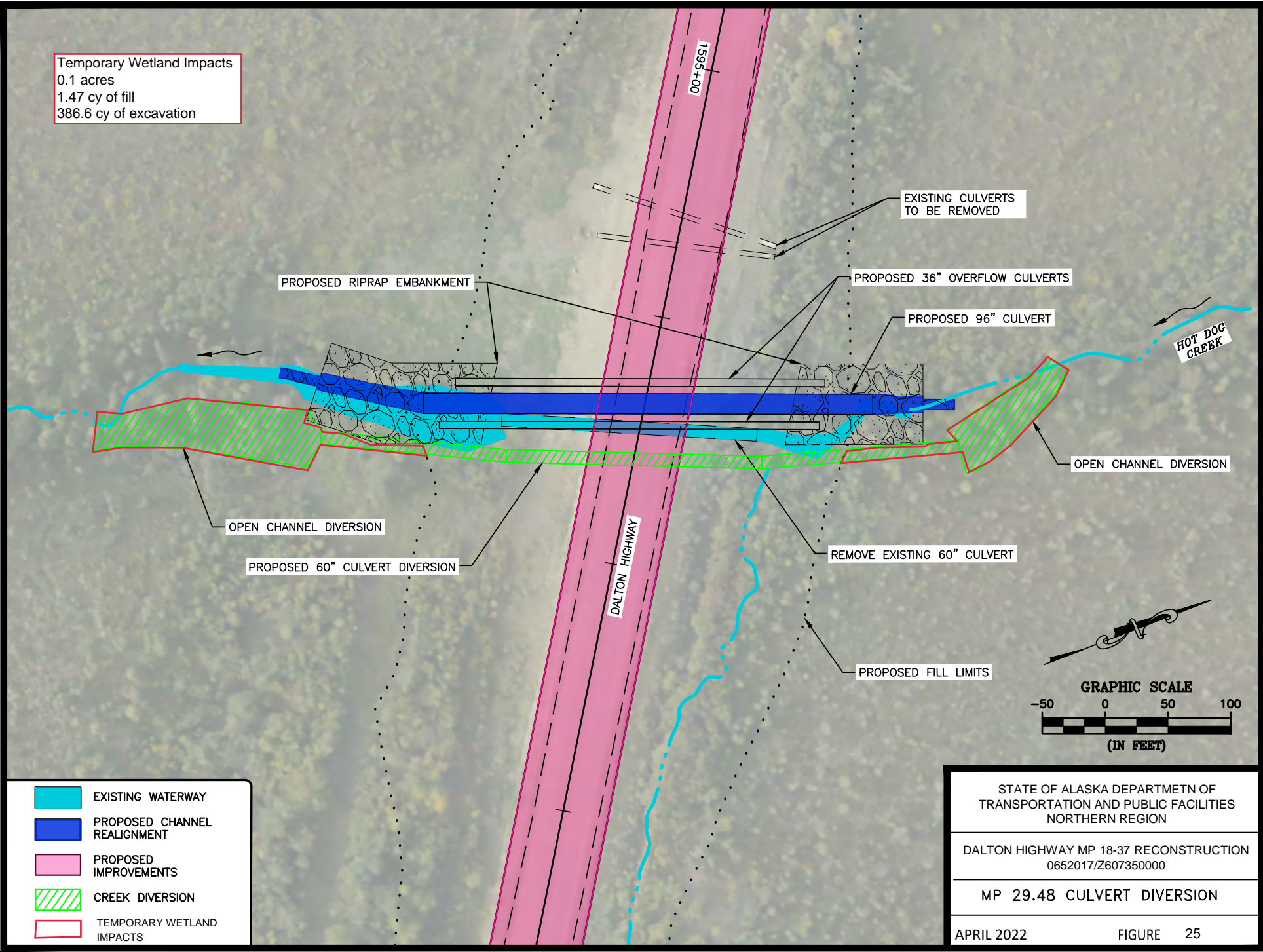
FILE NO.:
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

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 NORTHERN REGION
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 0652017/Z607350000

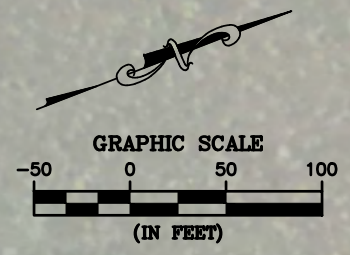
PROJ: 2328.01
 DATE: APR 2022
 REF: USACE
 FIGURE: 24

Temporary Wetland Impacts
 0.1 acres
 1.47 cy of fill
 386.6 cy of excavation

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 Plotted 4/15/2022 4:54 PM by AJ Behm



- EXISTING WATERWAY
- PROPOSED CHANNEL REALIGNMENT
- PROPOSED IMPROVEMENTS
- CREEK DIVERSION
- TEMPORARY WETLAND IMPACTS



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MP 29.48 CULVERT DIVERSION

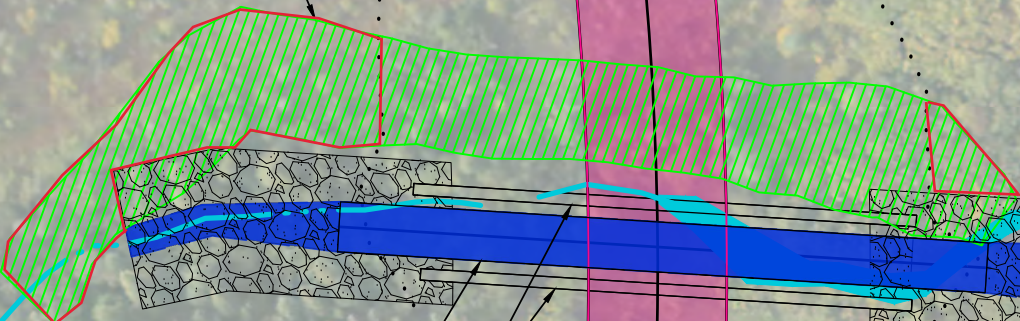
APRIL 2022 FIGURE 25

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Plotted 4/15/2022 4:54 PM by AJ Behm

Temporary Wetland Impacts
0.08 acres
0.75 cy of fill
380.94 cy of excavation

OPEN CHANNEL DIVERSION



PROPOSED 156" CULVERT

PROPOSED 36" OVERFLOW CULVERT

PROPOSED FILL LIMITS, TYP

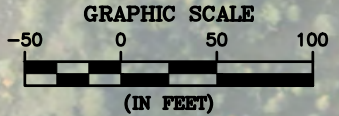
DALTON HIGHWAY

PROPOSED CUT LIMITS, TYP

EXISTING DALTON HWY. ROADWAY TO BE OBLITERATED.

USE EXISTING 72" CULVERT AS DIVERSION. REMOVE ONCE CHANNEL REALIGNMENT IS COMPLETE

HOT CAT CREEK



- EXISTING WATERWAY
- PROPOSED CHANNEL REALIGNMENT
- PROPOSED IMPROVEMENTS
- CREEK DIVERSION
- TEMPORARY WETLAND IMPACTS

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
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MP 33.74 CULVERT DIVERSION

APRIL 2022 FIGURE 26

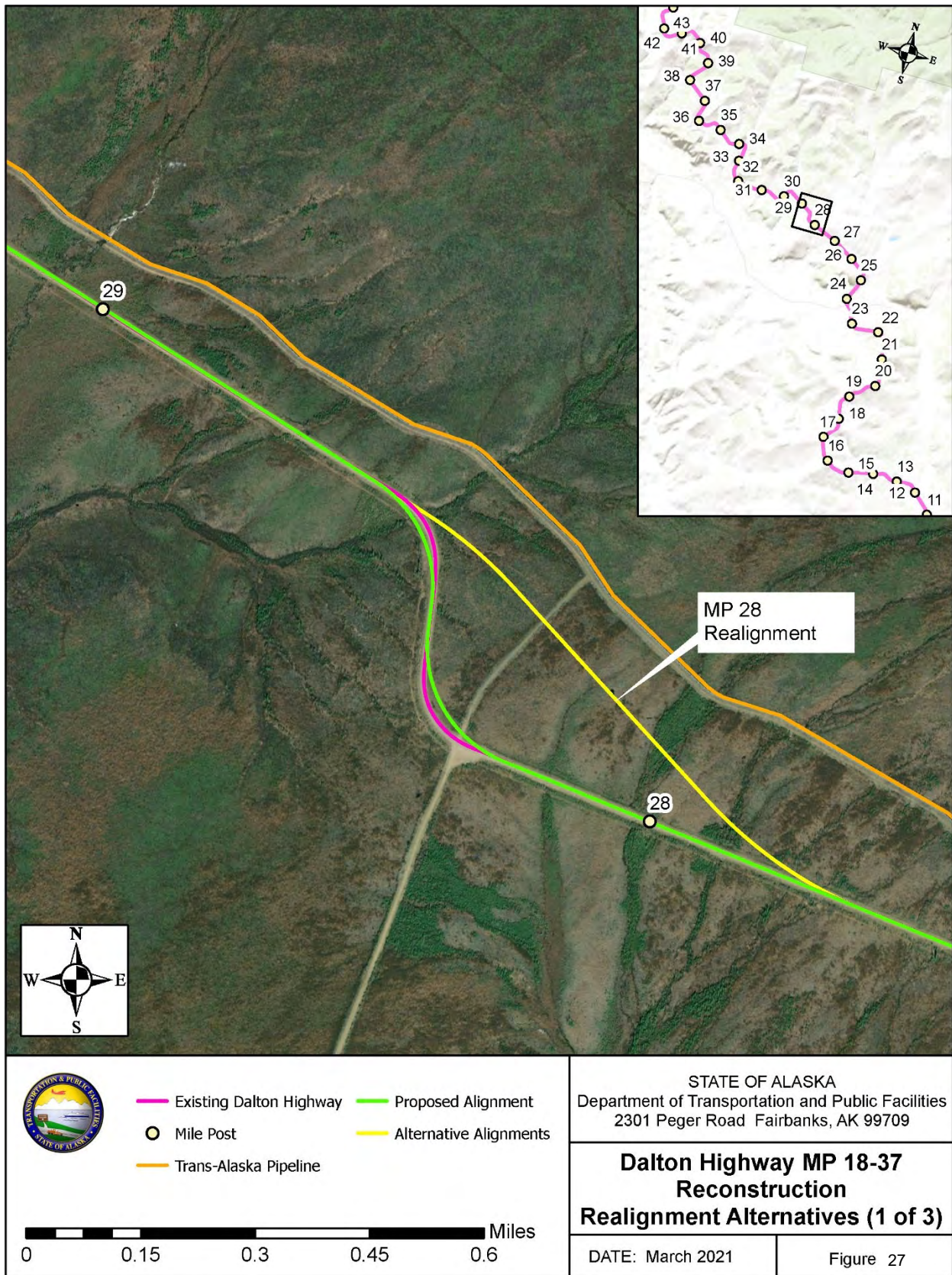
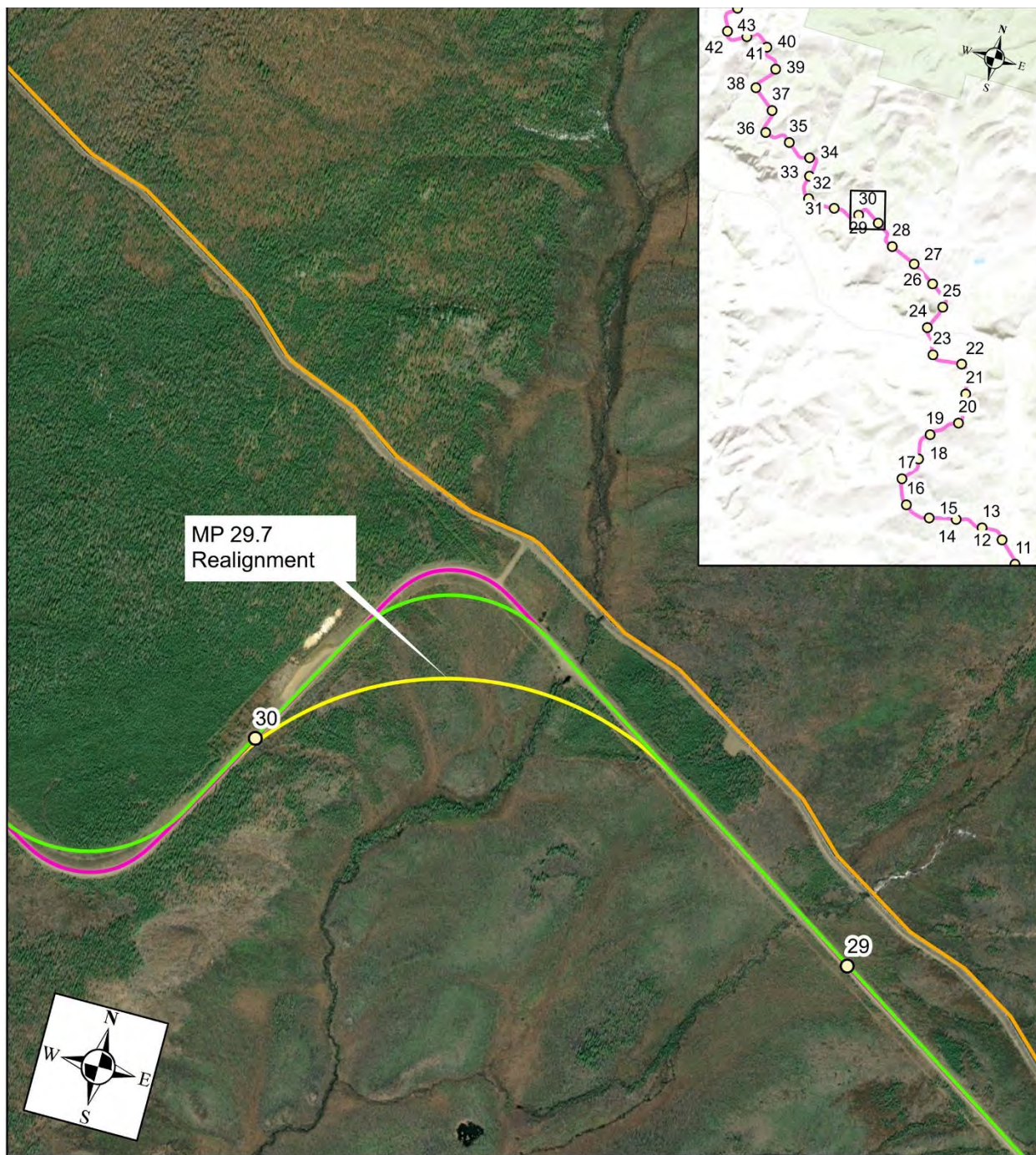


Figure 27 – Realignment Alternatives (1 of 4)

FILE NO.:
WATERWAY: HESS CREEK
PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
TRANSPORTATION AND PUBLIC FACILITIES
NORTHERN REGION
DALTON HWY MP 18-37 RECONSTRUCTION
Z607350000/0652017




 <ul style="list-style-type: none"> — Existing Dalton Highway — Proposed Alignment ○ Mile Post — Alternative Alignments — Trans-Alaska Pipeline 	<p>STATE OF ALASKA Department of Transportation and Public Facilities 2301 Peger Road Fairbanks, AK 99709</p> <p>Dalton Highway MP 18-37 Reconstruction Realignment Alternatives (2 of 3)</p>	
	<p>0 0.15 0.3 0.45 0.6 Miles</p>	<p>DATE: March 2021</p>

Figure 28 – Realignment Alternatives (2 of 4)

FILE NO.:
 WATERWAY: HESS CREEK
 PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
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 NORTHERN REGION
 DALTON HWY MP 18-37 RECONSTRUCTION
 Z607350000/0652017

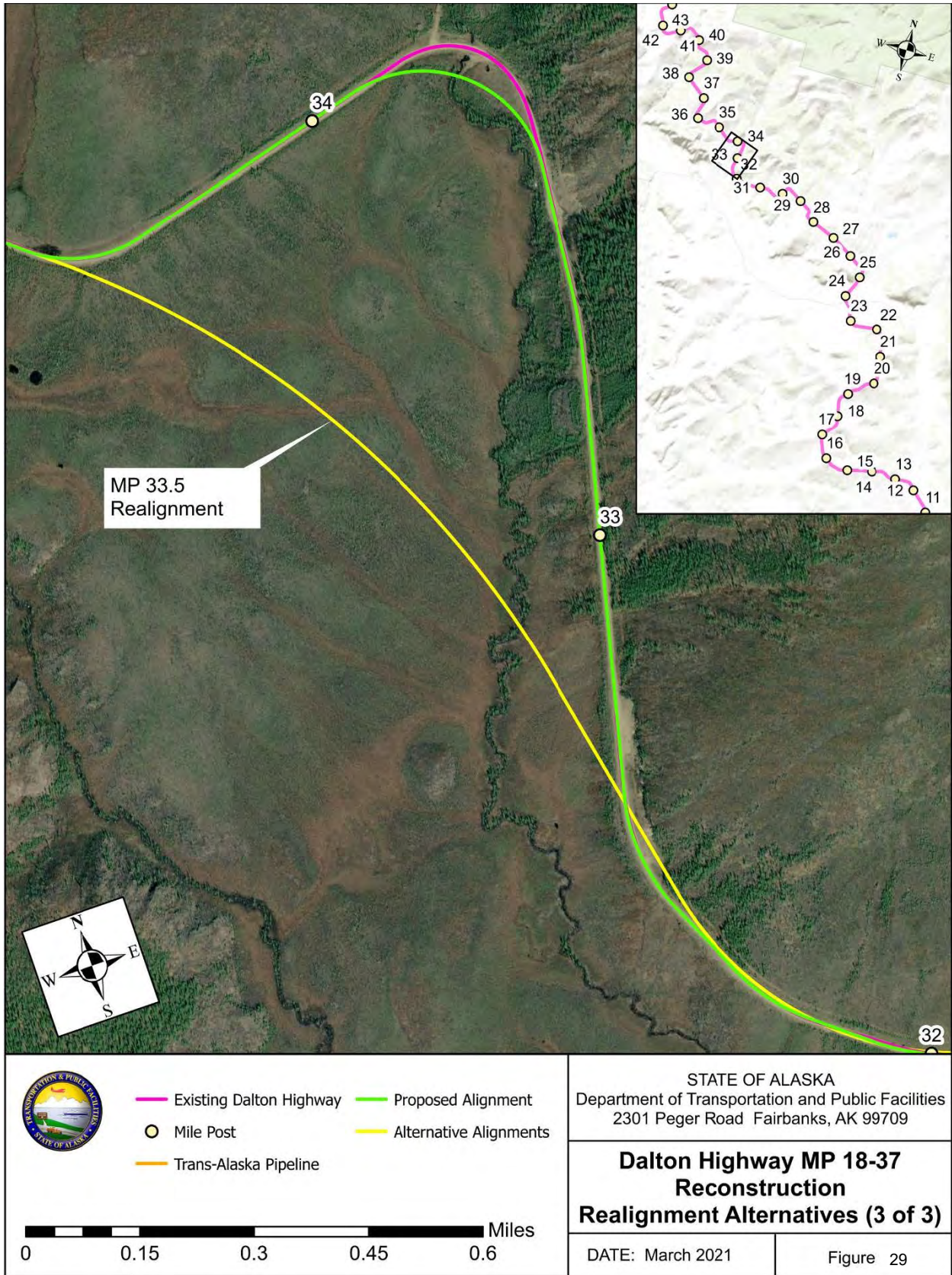


Figure 29 – Realignment Alternatives (3 of 4)

FILE NO.:
WATERWAY: HESS CREEK
PROPOSED ACTIVITY: HIGHWAY RECONSTRUCTION

STATE OF ALASKA DEPARTMENT OF
TRANSPORTATION AND PUBLIC FACILITIES
NORTHERN REGION
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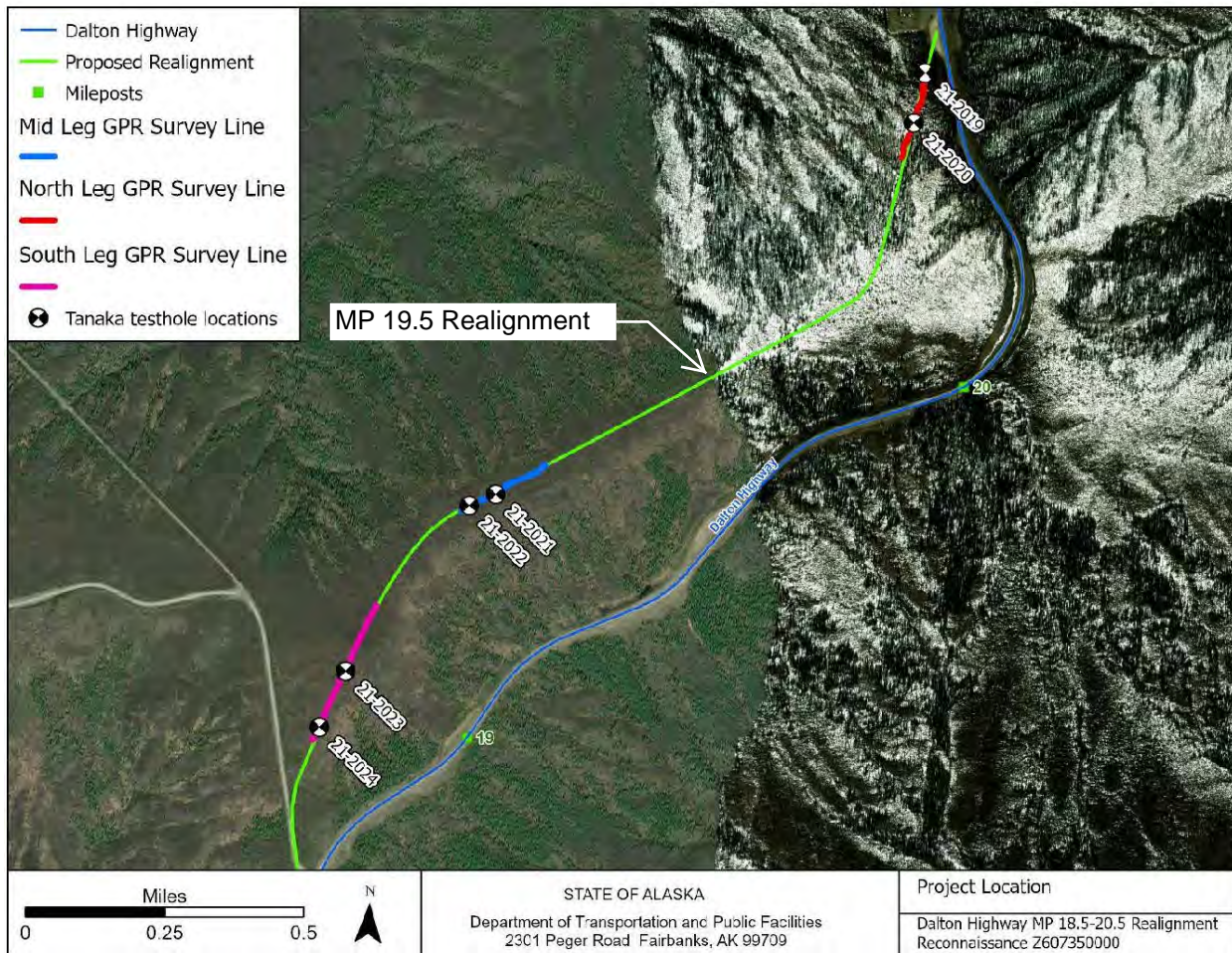


Figure 30 – Realignment Alternatives (4 of 4)