PUBLIC NOTICE
Alaska Department of Environmental Conservation (DEC)
Wastewater Discharge Authorization Program/§401 Certification
555 Cordova Street, Anchorage AK9501-2617
Phone: 907-269-6285 | Email: DEC-401Cert@alaska.gov

Notice of Application for State Water Quality Certification

Public Notice (PN) Date: October 6, 2022
PN Expiration Date: November 6, 2022
PN Reference Number: POA-2022-00265 v1.0
Waterway: Nenana River, Little Nenana River, East Middle River, West Middle River, Wetlands

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act (CWA) of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the CWA, the Alaska Water Quality Standards, and other applicable State laws.

Notice is hereby given that a request for a CWA §401 Water Quality Certification of a Department of the Army Permit application, Corps of Engineers’ PN Reference Number indicated above has been received for the discharge of dredged and/or fill materials into waters of the United States (WOUS), including wetlands, as described below, and shown on the project figures/drawings. The public notice and related project figures/drawings are accessible from the DEC website at [http://dec.alaska.gov/water/wastewater/](http://dec.alaska.gov/water/wastewater/).

To comment on the project or request for a public hearing with respect to water quality, submit comments electronically via the DEC public notice site at [https://water.alaskadec.commentinput.com/?id=VWKPM](https://water.alaskadec.commentinput.com/?id=VWKPM) on or before the public notice expiration date listed above.

**Applicant:** Alaska DOT&PF, Brett Nelson, 2301 Peger Road Fairbanks, AK 99709; (907) 451-2238; brett.nelson@alaska.gov.

**Project Name:** Nenana-Totchaket Road

**Location:** The proposed activity is located within Section 14, 18, 23, T4S, R10W; Fairbanks Meridian; in Yukon-Koyukuk Census Area, Alaska. Project Site: Latitude 64.57553° N, Longitude -149.49913° W.

Additional possible discharges to occur at the end of existing Totchaket Road to EOP: 64.575289, -149.496644; Little Nenana River Bridge 64.558481, -149.126611; West Middle River Bridge 64.560270, -149.217291; East Middle River Bridge 64.560352, -149.185512; Unnamed Stream, proposed armored high-water crossing 64.571990, -149.261811; Fill needed to rehab road. 64.574793, -149.377309.

**Purpose:** The purpose of this project is to address the need of a reliable route to the valley west of the City of Nenana. Access to the area is currently limited to approximately 12.1 miles of one-lane dirt road that is experiencing degradation due to springtime snow melt. The existing road also includes three bridges that require replacement. Extending west from the current road, access is only feasible by an All-terrain vehicle or snowmachine in the winter via a cleared line that extends to the Kantishna River floodplain. This portion of access is maintained by individuals who frequent the trail. This project will improve accessibility to the area west of the City of Nenana. Increased accessibility will facilitate development of agriculture plots being auctioned as part of the Alaska Department of Natural Resources (DNR) Nenana-Totchaket Agriculture Project, the Kantishna River, and the western portion of the Tanana Valley State Forest for landowners, hunters, fishers, and recreational users.

**Project Description:** The DOT&PF is proposing to construct the Nenana-Totchaket Road from the Nenana River to the Kantishna River. Project will include improving approximately 12 miles of existing road and constructing 20 miles of new road. The proposed Nenana-Totchaket Road Project is entirely State funded.
**Existing Road:** The existing approximately 12.1 mile roadway (Totchaket Road) would undergo re-leveling in areas that have experienced settling, flattening of embankment side slopes, installation of new surface course, clearing of vegetation at slope toes, replacement of three bridge crossings (East Middle, West Middle, and Little Nenana Rivers), construction of an armored high water crossing in a seasonal flood area, and some drainage improvements including culvert replacement and ditch work. Existing turnouts would also be improved, and new turnouts may be constructed as needed to support hauling materials during construction. No realignment of the existing roadway is proposed. There are several existing material sites along the existing road which may be further utilized and expanded, exclusively within upland areas.

**Road Extension:** Approximately 19 miles of new road would be constructed beginning at the end of the existing Totchaket Road, extending westerly towards the Kantishna River. The road would be constructed with an average top width of 18 foot with 3:1 side slopes and an average embankment thickness of 4 foot. Turnouts would be constructed at variable locations along the alignment to support construction at an average frequency of five per mile. Turnouts are anticipated to be limited to no more than 100 foot long and 12 foot wide and would be constructed in upland areas where practicable. The first 15.7 miles of new road extension would be built within the City of Nenana’s existing 500-foot wide right-of-way (ROW) easement, traversing relatively flat land primarily composed of sandy soils. Sections requiring road cuts would be constructed with a 4:1 or shallower backslope down to an approximately 10 foot wide ditch. A new ROW would be required for the remaining 3.3 miles of proposed road. This westernmost section of proposed road extension would alter course, taking on a northwesterly bearing, gradually descending approximately 3.3 miles across a ridgeline to the Kantishna River floodplain. The road would then terminate near the Kantishna River at a proposed boat launch area.

**Water Crossings:** Three bridges along the existing section of Totchaket Road are proposed to be replaced, crossing the Little Nenana River, the East Middle River and the West Middle River, all three of which are 80 foot in length and 4.3 foot wide. All three bridges are proposed to be replaced longer than the existing bridges, spanning the entire channel at ordinary high water, reducing channel constriction and flow velocity. The Little Nenana River bridge is anticipated to be 130 foot in length and 27 foot wide while the East and West Middle River bridges are anticipated to be 100 foot in length and 27 foot wide. Adjacent upland areas may be utilized for equipment staging and temporary access to support erection of the bridges. The existing bridge abutments are rock gabions that have experienced degradation and settlement over the life of the current bridges. All bridge abutments would be reconstructed with riprap placed below the ordinary high-water mark (OHWM) and graded upward at a stable slope to mitigate erosion. No dredging within the river channels is anticipated. In addition to the replacement of the existing bridges, this project proposes to reconstruct a portion of road that experiences seasonal flooding. Further detail on this section of road can be found below in the Proposed Mitigation section. Locations of the water crossings can be found in Figures 2, 4, 5, & 7. Detailed profiles for each bridge can be found on Figures 62-64.

**Culverts:** There are approximately 30 culverts in place along the existing portion of Totchaket Road, all of which have been determined to be operational during a site visit on June 10, 2022, and all but one culvert are not proposed to be replaced (Figure 60). The one culvert proposed to be replaced is part of the section of road that experiences seasonal flooding. Approximately 10 new culverts are proposed along the existing road and approximately 43 culverts are proposed to be placed along the new road alignment (Figure 61). At this time no fish passage culverts are anticipated to be installed. Two 7-foot Enhanced Hydraulic Design (EHD) culverts are being considered for the aforementioned seasonally flooded section of road.

**Material Sites:** Two material sites are anticipated to be developed for this project, both of which are located adjacent to the proposed road extension area. Alaska DOT&PF applied to establish the sites through Alaska DNR on May 22, 2022. The applications went to public notice on July 26, 2022. In addition to these two sites, there are established commercially available sites along Totchaket Road and in the Nenana River that may be used by the contractor. Locations of material sites and a typical cross section of the sites proposed for development can be found on Figures 1-1 – 1-7. The proposed project is anticipated to permanently impact approximately 12.88 acres of
waters of the U.S. (WOTUS) via the discharge of approximately 83,120 cubic yards of fill within different wetlands and river channels as part of its construction. Permanent fill is proposed for the following project components:

- Addition of material to existing road embankments that have settled; and
- Construction of turnouts to facilitate material hauling; and
- Replacement of three existing bridges over Little Nenana River, East Middle River, and West Middle River; and
- Construction of additional culverts and a high-water crossing on a section of existing road within a seasonally flooded area; and
- Construction of 15.7 miles of new road extension within the established City of Nenana ROW easement. This first 15.7 miles of proposed new road primarily traverses over upland areas with short segments of wetlands within the existing ROW; and
- Construction of 3.3 miles of additional road extension to the Kantishna River (Alternative #2).

A total approximately 10.04 acres of temporary impacts to wetlands are anticipated from the proposed project. Project actions that will result in temporary impacts to wetlands include:

- Temporary work areas associated with replacement of three bridge crossings (0.2 acres); and
- Temporary work areas around new and replacement culverts (0.93 acres); and
- In wetland areas, a temporary work zone will be established with an average of 10 foot on either side of the toe of embankment. This temporary work zone will not exceed a total width of 20 foot within any section of road (8.91 acres).

Temporary work areas associated with the replacement of bridges may include the installation of temporary bridge crossings and approach roads at the discretion of the contractor. The areas adjacent to the three bridges to be replaced are primarily uplands. Installation of temporary bridges/approach roads would result in approximately 0.2 acres of temporary impacts. All fills associated with temporary bridges will be remove prior to completion of construction. Implementation of temporary bridges would be coordinated with the Alaska Department of Fish and Game (ADF&G) and the appropriate permits would be obtained prior to construction. A 25-foot vegetative buffer beyond temporary work zones will be established in wetland areas along the length of the existing and proposed roads in wetland areas. Temporary fills in wetlands will be removed in their entirety upon completion of project construction.

After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the CWA, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

The permit application and associated documents are available for review. For inquiries or to request copies of the documents, contact dec-401cert@alaska.gov, or call 907-269-6285.

Disability Reasonable Accommodation Notice

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act (ADA) of 1990. If you are a person with a disability who may need special accommodation in order to participate in this public process, please contact ADA Coordinator Jason Burnett at 907-269-3056 or TDD Relay Service 1-800-770-8973/TTY or dial 711 prior to the expiration date of this public notice to ensure that any necessary accommodations can be provided.
*Material site is an existing, commercially available source and is not included in this permit.
*Material site is an existing, commercially available source and is not included in this permit.
TYPICAL CROSS SECTION MATERIAL SITE – ADL 420464

MATERIAL SITE BOUNDARY

NATURAL GROUND

10(h):1(v)
OR STEPPER

BUFFER 10'-25'

BUFFER 10'-25'

EXISTING ROAD

BUFFER 10'-25'

PROPOSED EXCAVATION
ACTIVE AREAS

NOTE: RECLAIM TO MAXIMUM 3:1 SLOPE

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road Fairbanks, AK 99709

Date: 8/2/2022  Figure 1-3

ADL 420464 - Typical section
Figure 1-4
M.S. 37-1-165-2/ADL 421856

Legend
- Temporary Work Zone
- Totchaket Road
- Proposed New Culverts
- Existing Trail
- Designated Material Site
- Existing ROW
- DOT Mining Area
- Designated Material Site Access Road
- Vegetation Clearing (25FT)
- Wetland Collect Boundary
- Fill Limits
NOTE:
This figure shows the material site boundary originally proposed, which would have included some wetland impacts. The final proposed material site boundary was reduced to completely avoid wetlands impacts. See Figure F1-6.
NOTE:
This figure shows the final proposed material site boundary, reduced to completely avoid wetlands impacts. Figure 1-5 shows the original proposed material site boundary.
TYPICAL CROSS SECTION IN UNCONSOLIDATED MATERIAL
ADL 421856 & ADL 421858

NOTE: MATERIAL SITE DIMENSIONS VARY BY SITE.

Figure 1-7

New Material Site Typical section
ADL 421856 & ADL 421858
The Legend includes:
- **Existing Culverts**
- **Proposed New Culverts**
- **Bridge**
- **Fill Limits**
- **Temporary Work Zone**
- **Rehabilitation Section**
- **Bridge Riprap**
- **Existing Road**
- **Existing ROW**
- **R2UBH**
- **Boat Launch Pad**
- **Wetland Collect Boundary**

The map shows the Planned Rehabilitation Existing Road F52, Replace East Middle River bridge F4, F63.
Legend
- Existing Culverts
- Proposed New Culverts
- Bridge
- Fill Limits
- Temporary Work Zone
- Rehabilitation Section
- Bridge Riprap
- Existing Road
- Existing ROW
- PSS1C
- R2UBH
- Wetland Collect Boundary

Replace West Middle River bridge F3, F64
Rehabilitation Existing Road F52

Figure 5
NOTE:
NWI data is used for this specific location due to limited data collected in 2022. NWI wetland locations and size are conservative.
NOTE:
NWI data is used for this specific location due to limited data collected in 2022. NWI wetland locations and size are conservative.

Data from National Wetlands Inventory Mapper
- PEM1F
- PFO4/1B
- PFO4/2B
- PFO4B
- PSS1/4B
- PSS1B

Legend
- Existing Culverts
- Proposed New Culverts
- Fill Limits
- Temporary Work Zone
- Rehabilitation Section
- Existing Road
- Existing ROW
- PEM1/SS1F
- PEM1C
- R2UBH
- Wetland Collect Boundary

In-Road High Water Crossing
This area is proposed as compensatory mitigation.

NOTE:
NWI data is used for this specific location due to limited data collected in 2022. NWI wetland locations and size are conservative.
Legend

- Existing Culverts
- Existing Material Site
- Temporary Work Zone
- Existing Road
- Existing ROW
- PEM1C
- PSS1B
- Wetland Collect Boundary

*Material site is an existing, commercially available source and is not included in this permit.

**Figure 8**

Date: 8/11/2022

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road  Fairbanks, AK 99709

Plan View Detail
NOTE:
NWI data is used for this specific location due to limited data collected in 2022. NWI wetland locations and size are conservative.
Legend

- Existing Culverts
- Temporary Work Zone
- Existing Road
- Existing Trail
- Existing ROW
- Wetland Collect Boundary

Plan View Detail

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road Fairbanks, AK 99709

Date: 8/11/2022

Figure 14
Legend
- Temporary Work Zone
- Proposed New Culverts
- Vegetation Clearing (25FT)
- Cut Limits
- Fill Limits
- Totchaket Road
- Existing Road
- Existing Trail
- Existing ROW
- Wetland Collect Boundary

End of Rehab Existing Road
Begin New Road Construction at 649+00
Legend
- Temporary Work Zone
- Proposed New Culverts
- Vegetation Clearing (25FT)
- Cut Limits
- Fill Limits

Tottchaket Road

Existing Trail

Existing ROW

Wetland Collect Boundary

Document Path: H:\Projects\Communities\Newana\Tottchaket\GIS\DSR\0657_DSR.aprx

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road  Fairbanks, AK 99709

Date: 8/10/2022  Figure 17

Plan View Detail
Legend

- Temporary Work Zone
- Vegetation Clearing (25FT)
- Cut Limits
- Fill Limits
- Totchaket Road
- Existing Trail
- Existing ROW
- Wetland Collect Boundary

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road Fairbanks, AK 99709

Date: 8/10/2022
Figure 23

Plan View Detail
Legend

- Temporary Work Zone
- Vegetation Clearing (25FT)
- Cut Limits
- Fill Limits
- Totchaket Road
- ExistingTrail
- Existing ROW
- PSS1B
- Wetland Collect Boundary

Figure 24

Date: 8/10/2022

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road Fairbanks, AK 99709

Plan View Detail
Legend
- Temporary Work Zone
- DOT Mining Area
- Designated Material Site
- Existing Trail
- Vegetation Clearing (25FT)
- Proposed New Culverts
- Cut Limits
- Fill Limits
- Existing ROW
- Totchaket Road
- Designated Material Site
- Access Road
- PSS1B
- Wetland Collect Boundary

Plan View Detail

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road Fairbanks, AK 99709

Date: 8/10/2022
Figure 26
Legend
- Temporary Work Zone
- Proposed New Culverts
- Designated Material Site
- DOT Mining Area
- Vegetation Clearing (25FT)
- Cut Limits
- Fill Limits
- Existing Trail
- Existing ROW
- Designated Material Site
- Access Road
- Wetland Collect Boundary

Plan View Detail

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road Fairbanks, AK 99709

Date: 8/10/2022
Figure 27

MS 37-1-166-2/ADL 421858
F1-5, F1-6, F1-7, F26, F27
Alternative #1 Possible Road Extension Downhill to Kantishna River (Dismissed)  F35-F41
Alternative #2 Possible Road Extension North to Kantishna River  F42-F49

Alternative #1 was dismissed due to challenging topography and significant wetland impacts.

*Wetland data for Alternative #1 is from NWI
Legend
- Temporary Work Zone
- Alternatives
- Existing ROW
- Vegetation Clearing (25FT)
- Fill Limits

*Wetland data for Alternative #1 is from NWI*

Alternative #1 was dismissed due to challenging topography and significant wetland impacts.
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Alternative #1 was dismissed due to challenging topography and significant wetland impacts.

*Wetland data for Alternative #1 is from NWI*
Alternative #1 was dismissed due to challenging topography and significant wetland impacts.

*Wetland data for Alternative #1 is from NWI.
Alternative #2 Possible Road Extension North to Kantishna River

**Legend**
- Temporary Work Zone
- Proposed New Culverts
- Alternatives
- Vegetation Clearing (25FT)
- Cut Limits
- Fill Limits
- Totchaket Road
- Existing Trail
- Existing ROW
- Wetland Collect Boundary

**Alternative #2 is the preferred alternative / LEDPA**
Alternative #2 is the preferred alternative / LEDPA
Alternative #2 is the preferred alternative / LEDPA
Alternative #2 is the preferred alternative / LEDPA
Alternative #2 is the preferred alternative / LEDPA
Alternative #2 is the preferred alternative / LEDPA.
Alternative #2 is the preferred alternative / LEDPA

Legend

- Temporary Work Zone
- Proposed New Culverts
- Alternatives
- Fill Limits
- PEM1/SS1B
- PEM1F
- PFO4/SS1B

PSS1/EM1C
PSS1/FO4B
PSS1B
PUBH
R3UBH
Boat Launch Pad
Wetland Collect Boundary
FIGURE 49

Alternative #2 is the preferred alternative / LEDPA

Legend
- Temporary Work Zone
- Proposed New Culverts
- Alternatives
- Vegetation Clearing (25FT)
- Fill Limits
- Boat Launch Pad
- Wetland Collect Boundary

Alternative #2 (Preferred)
Figure 50
Possible Roads Extension Terrain Map

Legend
- **Alternative Road Extensions**
  - ≤ 94.68
  - ≤ 97.760002
  - ≤ 100.889999
- **Existing ROW**
  - ≤ 104.080002
  - ≤ 106.959999
  - ≤ 109.989998
- **Existing Trail**
  - ≤ 114.010002
  - ≤ 118.730003
- **IFSAR Terrain Data (Meters)**
  - ≤ 90.919998
  - ≤ 109.989998
  - ≤ 114.010002
  - ≤ 118.730003

- **Kantishna River**
- **Alternative #1**
  (Dismissed)
  5.5 miles
- **Alternative #2**
  (Preferred Alternative)
  3.4 miles

**Dates:**
- Date: 8/3/2022

**Contact:**
- Department of Transportation and Public Facilities
  2301 Peger Road Fairbanks, AK 99709

**Software:**
- Maxar Technologies, Alaska Geospatial Office, USG S

**Scale:**
- 1:50,000
NOTE:

1. Within wetland areas, turnouts will be constructed within the limits of existing fill.

2. Vegetation clearing in wetland areas outside of the proposed footprint will be accomplished while soils are frozen or by hand using only low ground-pressure, wheeled amps for access to minimize temporary wetland impacts.

**3. Temporary work zone extends 10' beyond top of road. This area will be for temporary equipment access and project activities.

4. Vegetative buffer extends outward 25' from the temporary work zone. This area will be used during construction for serve as a natural vegetative screen.

TYPICAL SECTION A

NTS

RESURFACE EXISTING ROAD
VEGETATIVE BUFFER, 25' MIN.

CLEARING LIMITS/
**TEMPORARY WORK ZONE

VEGETATIVE BUFFER, 25' MIN.

EXISTING ROAD

PROFILE

GRADE

NOTE:
1. VEGETATION CLEARING IN SETBACK AREAS OUTSIDE OF THE PROPOSED FOOTPRINT WILL BE ACCOMPLISHED WHILE SOILS ARE FREEZEN OR BY HARD HOEING ONLY FOR GROUND-MATRESS. WHEELED ANS FOR ACCESS TO MINIMIZE TEMPORARY WETLAND IMPACTS.

**2. TEMPORARY WORK ZONE EXTENDS 10' BEYOND TOC OF ROAD. THIS AREA WILL BE FOR TEMPORARY EQUIPMENT ACCESS AND PROJECT ACTIVITIES.

3. VEGETATIVE BUFFER EXTENDS OUTWARD 20' FROM THE TEMPORARY WORK ZONE. THIS AREA WILL BE USED DURING CONSTRUCTION FOR SERVE AS A MATERIAL VEGETATIVE SCREEN.

4. FINAL EMBANKMENT THICKNESS ABOVE EXISTING GRADE GENERALLY VARIES BETWEEN 1' TO 6'.

TYPICAL SECTION B

REHABILITATION EXISTING ROAD

EXISTING ROAD

VEGETATIVE BUFFER

EXISTING ROAD

PROFILE

GRADE

6" CRUSHED AGGREGATE BASE COURSE, GRADE E-1

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road Fairbanks, AK 99709

Date: 8/10/2022
Figure 52

Existing Road - Typical section B
**Table: Existing Road - Table of details**

<table>
<thead>
<tr>
<th>IMPROVEMENT ID</th>
<th>STATION</th>
<th>FILL IN WETLAND (Y/N)</th>
<th>FILL IN WETLAND (ACRES)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RESURFACE</strong></td>
<td>BOP TO 649+00</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td>REPLACE 1 (LITTLE NENANA RIVER BRIDGE)</td>
<td>22+50 - 26+00</td>
<td>Y</td>
<td>0.17</td>
</tr>
<tr>
<td>REHABILITATION 1</td>
<td>94+27 - 95+27</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td>REPLACE 2 (EAST MIDDLE RIVER BRIDGE)</td>
<td>116+50 - 120+00</td>
<td>Y</td>
<td>0.05</td>
</tr>
<tr>
<td>REHABILITATION 2</td>
<td>146+00 - 147+00</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td>REHABILITATION 3</td>
<td>147+84 - 148+84</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td>REPLACE 3 (WEST MIDDLE RIVER BRIDGE)</td>
<td>166+50 - 171+00</td>
<td>Y</td>
<td>0.14</td>
</tr>
<tr>
<td>REHABILITATION 4</td>
<td>180+34 - 181+34</td>
<td>Y</td>
<td>0.01</td>
</tr>
<tr>
<td>REHABILITATION 5</td>
<td>198+00 - 200+00</td>
<td>Y</td>
<td>0.06</td>
</tr>
<tr>
<td>REHABILITATION 6</td>
<td>236+38 - 237+38</td>
<td>Y</td>
<td>0.01</td>
</tr>
<tr>
<td>REHABILITATION 7</td>
<td>241+00 - 243+00</td>
<td>Y</td>
<td>0.11</td>
</tr>
<tr>
<td>REHABILITATION 8 (IN ROAD HIGH WATER CROSSING)</td>
<td>255+00 - 259+00</td>
<td>Y</td>
<td>0.32</td>
</tr>
<tr>
<td>REHABILITATION 9</td>
<td>333+50 - 341+00</td>
<td>Y</td>
<td>0.10</td>
</tr>
</tbody>
</table>

**NOTE:**

1. **THE ENTIRE EXISTING TOTCHAKET ROAD WILL BE RESURFACED AND FILL LIMITS WITHIN WETLAND AREAS WILL REMAIN WITHIN THE EXISTING ROAD PRISM, UNLESS OTHERWISE NOTED.**
NOTE:

1. EMBANKMENT HEIGHT WILL AVERAGE BETWEEN 5 TO 8 FEET. MAXIMUM EMBANKMENT HEIGHT OF 6 FT MAY BE USED IN AREAS OF POTENTIAL SNOW DRIFTING AND IN AREAS WHERE THERE IS CONCERN OF THAWING UNDERLYING PERMAFROST.

2. TEMPORARY WORK ZONE EXTENDS 10' BEYOND TOE OF ROAD. THIS AREA WILL BE FOR TEMPORARY EQUIPMENT ACCESS AND PROJECT ACTIVITIES.

3. VEGETATIVE BUFFER EXTENDS OUTWARD 25' FROM THE TEMPORARY WORK ZONE. THIS AREA WILL BE USED DURING CONSTRUCTION FOR SERVE AS A NATURAL VEGETATIVE SCREEN.

4. EMBANKMENT HEIGHT VARIES, WITH AN AVERAGE THICKNESS OF 6'.

TYPICAL SECTION C
NT5
NEW ROAD FILL
NOTE:

1. Ditch width varies. Average Ditch Width is 4 ft. However the ditch may be widened in areas of uphill to generate usable fill.

**2. Temporary Work Zone extends 10' beyond side of road. This area will be for temporary equipment access and project activities.

3. Vegetative Buffer extends outward 25' from the temporary work zone. This area will be used during construction for serve as a natural vegetative screen.

TYPICAL SECTION D

NTS

NEW ROAD FILL WITH DITCH
NOTE:
1. Dimensions vary and may be modified to increase or decrease cut volume within upland areas.
2. Ditch width varies between 0 to 10', back slopes will generally be 4:1 or shallower, except in upland areas.
3. Temporary work zone extends 10' beyond toe of road; this area will be for temporary equipment access and project activities.
4. Vegetative buffer extends outward 25' from the temporary work zone; this area will be used during construction for serve as a natural vegetative screen.

TYPICAL SECTION E

NTS
NEW ROAD CUT
Figure 57

Date: 8/4/2022

Fish passage Culvert Details

STATE OF ALASKA
Department of Transportation and Public Facilities
2301 Peger Road Fairbanks, AK 99709

NOTES:
1. THIS TYPICAL SECTION IS FOR CONVEYANCE STRUCTURES NOT INTENDED FOR FISH PASSAGE. LOCATIONS AND SIZE VARY.
2. CULVERT INVERTS ARE DEPRESSED BELOW THE BOTTOM OF THE EXISTING CHANNEL, AND FILLED WITH RIPRAP SUBSTRATE PASSAGE. THICKNESS VARIES.
3. INSULATION BOARD TO BE USED IN AREAS OF PERMAFROST.
4. INLET, OUTLET, AND FORESLOPE RIPRAP TO BE INSTALLED IN AREAS WHERE EROSION AT CULVERT INVERTS IS A CONCERN. DIMENSIONS ARE APPROXIMATE.
5. SEE STATION FB1 FOR CULVERT LOCATION.
6. FINAL LOCATION(S) OF FISH PASSAGE CULVERTS TO BE COORDINATED WITH ADF&G
NOTES:
1. THIS TYPICAL SECTION IS FOR CONVEYANCE STRUCTURES NOT INTENDED FOR FISH PASSAGE. LOCATIONS AND SIZE VARY.
2. INSULATION BOARD TO BE USED IN AREAS OF PERMAFROST.
3. INLET, OUTLET, AND FORESLOPE RIPRAP TO BE INSTALLED IN AREAS WHERE EROSION AT CULVERT INVERTS IS A CONCERN. DIMENSIONS ARE APPROXIMATE.
4. FOR ENHANCED HYDRAULIC DESIGN CULVERTS, INVERTS TO BE RECEDED BELOW EXISTING BOTTOM OF CHANNEL TO PROMOTE FISH PASSAGE.
5. SEE SHEET F80–61 FOR CULVERT LOCATION(S).
1. There is an existing 4’ diameter culvert at the location as shown. During flood stages, this culvert does not adequately convey the water across the road and the water overtops the road, which causes gravel from the road embankment to erode into the adjacent wetlands.

2. As mitigation, this project will construct two 7’ diameter culverts, one adjacent to and one in place of the existing 4’ culvert. In addition, an armored in-road high water crossing will be constructed to allow water to overtop the road during flood stages. This feature will be armored with rock to prevent erosion of the road during flood stages, and therefore mitigate impacts to wetlands that occurs during flood events. Dimensions noted are approximate.

3. Specific details of the design will be coordinated with ADF&G, but will remain within the wetland impact boundaries shown here.
## EXISTING CULVERT

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>LENGTH (FT)</th>
<th>DIAMETER (IN)</th>
<th>REPLACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>20+42.64</td>
<td>UNKNOWN</td>
<td>24</td>
<td>NO</td>
</tr>
<tr>
<td>30+26.70</td>
<td>UNKNOWN</td>
<td>24</td>
<td>NO</td>
</tr>
<tr>
<td>89+27.29</td>
<td>UNKNOWN</td>
<td>24</td>
<td>NO</td>
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<tr>
<td>94+94.62</td>
<td>UNKNOWN</td>
<td>24</td>
<td>NO</td>
</tr>
<tr>
<td>171+09.65</td>
<td>UNKNOWN</td>
<td>24</td>
<td>NO</td>
</tr>
<tr>
<td>180+15.98</td>
<td>UNKNOWN</td>
<td>24</td>
<td>NO</td>
</tr>
<tr>
<td>214+27.93</td>
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<td>NO</td>
</tr>
<tr>
<td>258+42.49</td>
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</tr>
<tr>
<td>291+86.03</td>
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<td>NO</td>
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<tr>
<td>316+98.39</td>
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<tr>
<td>350+04.40</td>
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<tr>
<td>370+11.21</td>
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<td>377+16.18</td>
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<td>398+20.89</td>
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<tr>
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<tr>
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<tr>
<td>498+82.76</td>
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<tr>
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<td>553+78.28</td>
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<td>579+34.38</td>
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<td>590+30.33</td>
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<td>602+35.87</td>
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<td>611+15.58</td>
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</tr>
<tr>
<td>635+86.01</td>
<td>100</td>
<td>24</td>
<td>NO</td>
</tr>
</tbody>
</table>

**NOTE:**
DATA COLLECTED BY FIELD MAP ON SITE VISIT. CULVERT LOCATION IS APPROX. STATION ON THE ALIGNMENT. SOME DATA LENGTH IS FROM AS–BUILT.
### Proposed New Culvert at Existing Road

<table>
<thead>
<tr>
<th>Pipe Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>94 + 77.56</td>
</tr>
<tr>
<td>146 + 46.23</td>
</tr>
<tr>
<td>148 + 32.93</td>
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<tr>
<td>180 + 83.89</td>
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<tr>
<td>198 + 40.14</td>
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<tr>
<td>236 + 88.37</td>
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<tr>
<td>241 + 78.04</td>
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<tr>
<td>242 + 88.93</td>
</tr>
<tr>
<td>** 256 + 29.22**</td>
</tr>
<tr>
<td>** 257 + 84.98**</td>
</tr>
</tbody>
</table>

### Proposed New Culvert at New Road Construction

<table>
<thead>
<tr>
<th>Pipe Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>652 + 00</td>
</tr>
<tr>
<td>660 + 00</td>
</tr>
<tr>
<td>714 + 39.78</td>
</tr>
<tr>
<td>716 + 50</td>
</tr>
<tr>
<td>723 + 28.19</td>
</tr>
<tr>
<td>730 + 20.93</td>
</tr>
<tr>
<td>734 + 37.81</td>
</tr>
<tr>
<td>755 + 20</td>
</tr>
<tr>
<td>756 + 50</td>
</tr>
<tr>
<td>772 + 00</td>
</tr>
<tr>
<td>802 + 50</td>
</tr>
<tr>
<td>806 + 00</td>
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<tr>
<td>820 + 00</td>
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<tr>
<td>837 + 75.29</td>
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<td>899 + 00</td>
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<tr>
<td>901 + 00</td>
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<td>907 + 50</td>
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<tr>
<td>917 + 00</td>
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<td>1036 + 00</td>
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<tr>
<td>1101 + 50</td>
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<tr>
<td>1140 + 00</td>
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<td>1185 + 00</td>
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<td>1225 + 00</td>
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<tr>
<td>1456 + 00</td>
</tr>
<tr>
<td>1469 + 00</td>
</tr>
<tr>
<td>1476 + 00</td>
</tr>
</tbody>
</table>

### Proposed New Culvert at Alternative #2 (Preferred)

<table>
<thead>
<tr>
<th>Pipe Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 + 50</td>
</tr>
<tr>
<td>25 + 50</td>
</tr>
<tr>
<td>43 + 00</td>
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<tr>
<td>100 + 00</td>
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<tr>
<td>116 + 50</td>
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<tr>
<td>182 + 00</td>
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<tr>
<td>164 + 50</td>
</tr>
<tr>
<td>155 + 00</td>
</tr>
<tr>
<td>125 + 00</td>
</tr>
</tbody>
</table>

**NOTE:**
1. Data collected by field map on site visit. Culvert location is approx. station on the alignment. Culverts may remove from list in the future decision.
2. Culvert size and locations are approximate and may be adjusted to fit field conditions.
3. Fish passage please see F57 for more details.
NOTE:
1. APPROXIMATELY 130' SINGLE SPAN BRIDGE TO BE CONSTRUCTED OVER APPROXIMATELY 80' WIDE LITTLE NENANA RIVER, CENTERED OVER THE RIVER.
2. BRIDGE ABUTMENTS & FOUNDATION TO CONSIST OF SLOPED EARTEN EMBANKMENT ARMORED WITH ROCK, AND BE DESIGNED TO SPAN ENTIRE RIVER CHANNEL AT ORDINARY HIGH WATER (OHW).
3. LOCATION AND DIMENSIONS OF ROCK ARMORING ALONG ABUTMENTS ARE APPROXIMATE, AND WILL BE DESIGNED TO CLOSELY MAINTAIN NATURAL CHANNEL DIMENSIONS TO THE FURTHEST EXTENT PRACTICABLE.
4. ADJACENT UPLAND AREAS MAY BE UTILIZED FOR TEMPORARY EQUIPMENT ACCESS TO SUPPORT BRIDGE ERECTION.

<table>
<thead>
<tr>
<th>Little Nenana River Bridge</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of fill below OHW</td>
<td>0.095 Acre</td>
</tr>
<tr>
<td>Volume of fill below OHW</td>
<td>998,000 CY</td>
</tr>
</tbody>
</table>
NOTE:
1. APPROXIMATELY 100' SINGLE SPAN BRIDGE TO BE CONSTRUCTED OVER APPROXIMATELY 50' WIDE EAST MIDDLE CREEK, CENTERED OVER THE CREEK.
2. BRIDGE ABUTMENTS & FOUNDATION TO CONSIST OF SLOPED EARTHEM EMBANKMENT ARMORED WITH ROCK, AND BE DESIGNED TO SPAN ENTIRE RIVER CHANNEL AT ORDINARY HIGH WATER (OHW).
3. LOCATION AND DIMENSIONS OF ROCK ARMORING ALONG ABUTMENTS ARE APPROXIMATE, AND WILL BE DESIGNED TO CLOSELY MAINTAIN NATURAL CHANNEL DIMENSIONS TO THE FURTHEST EXTENT PRACTICABLE.
4. ADJACENT UPLAND AREAS MAY BE UTILIZED FOR TEMPORARY EQUIPMENT ACCESS TO SUPPORT BRIDGE ERECTION.

<table>
<thead>
<tr>
<th>East Middle Creek Bridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of fill below OHW</td>
</tr>
<tr>
<td>Volume of fill below OHW</td>
</tr>
</tbody>
</table>
NOTE:
1. APPROXIMATELY 100' SINGLE SPAN BRIDGE TO BE
   CONSTRUCTED OVER APPROXIMATELY 50' WIDE EAST
   MIDDLE CREEK, CENTERED OVER THE CREEK.
2. BRIDGE ABUTMENTS & FOUNDATION TO CONSIST OF
   SLOPED EARTHEN EMBANKMENT ARMORED WITH ROCK,
   AND BE DESIGNED TO SPAN ENTIRE RIVER CHANNEL
   AT ORDINARY HIGH WATER (OHW).
3. LOCATION AND DIMENSIONS OF ROCK ARMORING
   ALONG ABUTMENTS ARE APPROXIMATE, AND WILL BE
   DESIGNED TO CLOSELY MAINTAIN NATURAL CHANNEL
   DIMENSIONS TO THE FURTHER EXTENT PRACTICABLE.
4. ADJACENT UPLAND AREAS MAY BE UTILIZED FOR
   TEMPORARY EQUIPMENT ACCESS TO SUPPORT BRIDGE
   ERECTION.

West Middle Creek Bridge
Area of fill below OHW  0.096 Acre
Volume of fill below OHW  606.667 CY