# ALASKA RAILROAD CORPORATION

## ENGINEERING SERVICES

**P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500**

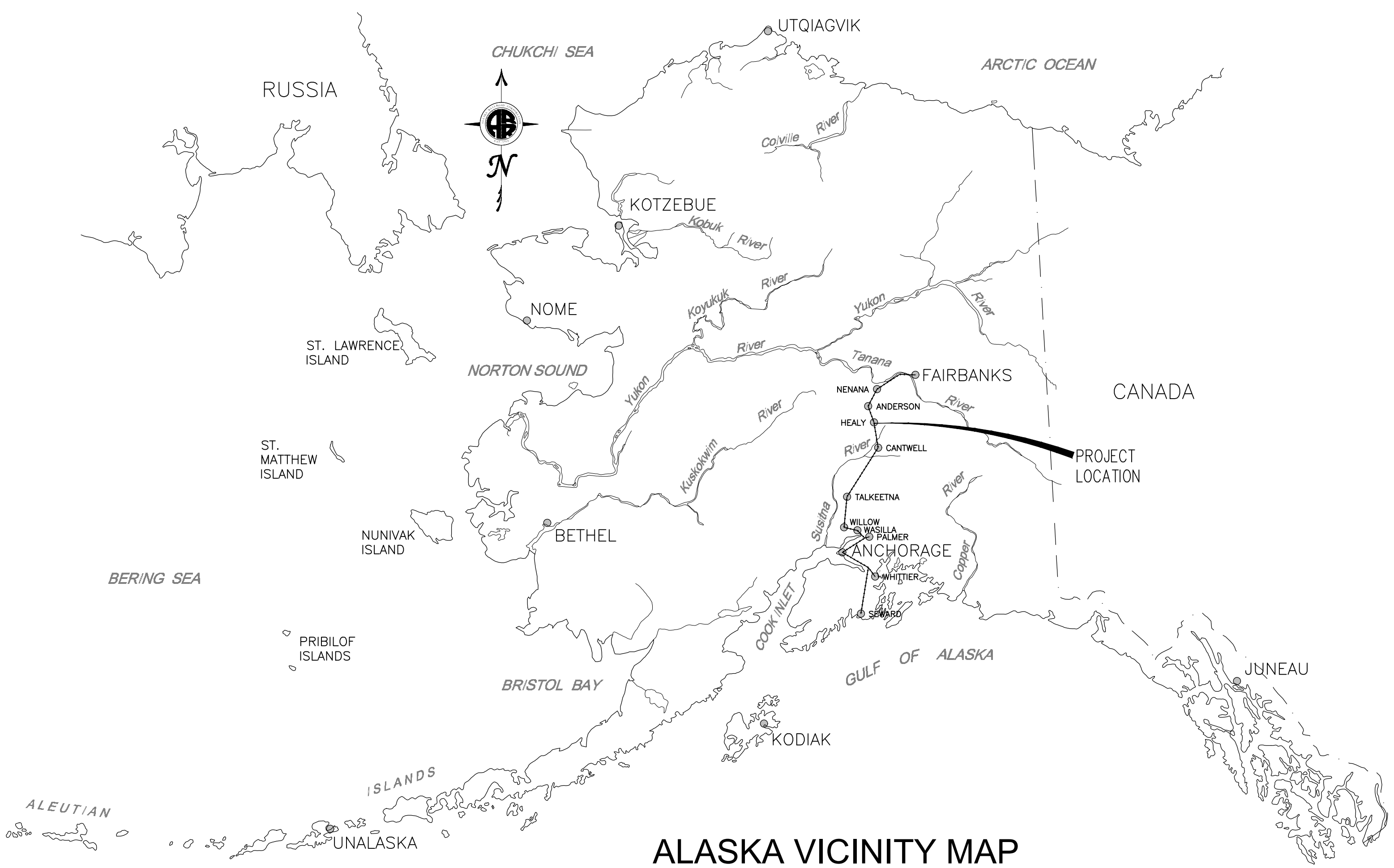
# MP 357.1 SLOPE STABILITY AND DRAINAGE IMPROVEMENTS

# ISSUED FOR BID PLANS

**SEPTEMBER 2025**

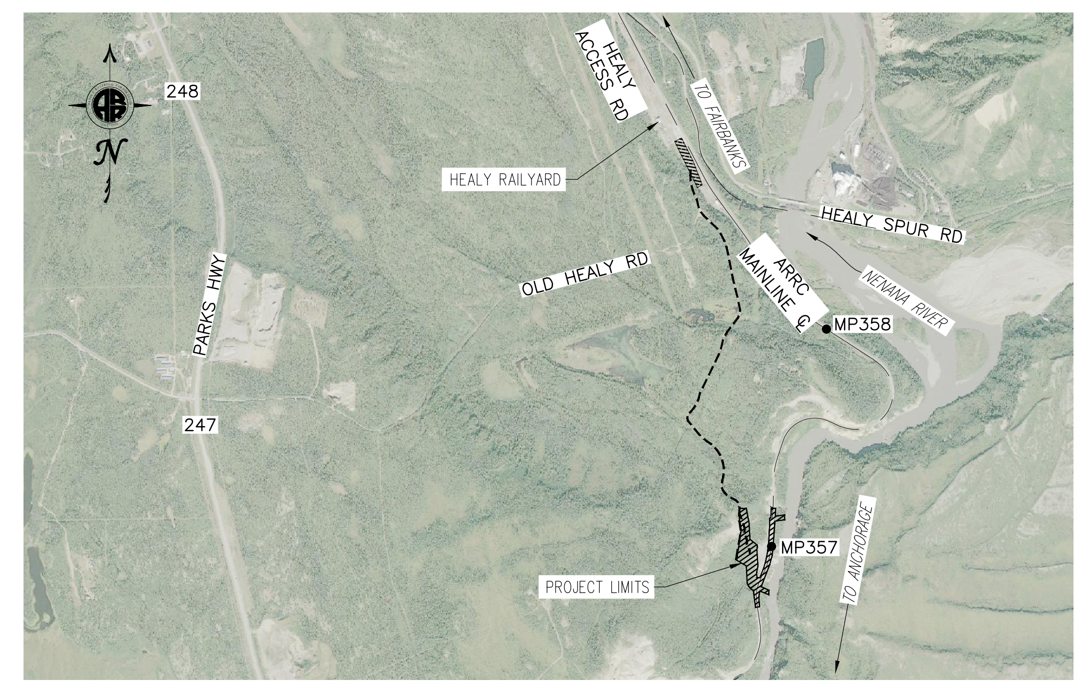
### SHEET INDEX






ALASKA VICINITY MAP

NTS




SITE MAP

NTS

UTILITIES:

VERIFY ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
LOCATE CALL CENTER OF ALASKA (811):
- ANCHORAGE ............1.907.278.3121
- STATEWIDE ..............1.800.478.3121

Alaska DIGLINE

CALL CENTER WILL NOTIFY SUBSCRIBED UTILITIES ONLY, OTHER UTILITIES NEED TO BE CONTACTED INDIVIDUALLY.

LEGEND:

- CENTERLINE FOR ACCESS ROAD IMPROVEMENTS
- PROJECT LIMITS FOR PROPOSED FEATURES, STAGING, AND STOCKPILING
- HEALY RAILYARD STAGING AREA

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|

**IFB PLANS**

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
SLOPE STABILITY AND DRAINAGE IMPROVEMENTS
COVER & SHEET INDEX

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-G000 | G-001 | 01 |

## ABBREVIATIONS

| | |
|---|---|
| ALCAP | ALUMINUM CAP |
| AKDOT & PF | ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES |
| APPROX. | APPROXIMATE |
| AREMA | AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION |
| ARRC | ALASKA RAILROAD CORPORATION |
| ASTM | AMERICAN SOCIETY FOR TESTING AND MATERIALS |
| AWS | AMERICAN WELDING SOCIETY |
| BD | BALLAST DECK |
| BMP | BEST MANAGEMENT PRACTICE |
| BOP | BEGINNING OF PROJECT |
| BP | BEGIN POINT |
| BR | BRIDGE |
| BVCE | BEGIN VERTICAL CURVE ELEVATION |
| BVCS | BEGIN VERTICAL CURVE STATION |
| ℄ | CENTERLINE |
| C-C | CENTER-TO-CENTER |
| CC | CIRCULAR CURVE |
| CMP | CORRUGATED METAL PIPE |
| CP | CONTROL POINT |
| CRSI | CONCRETE REINFORCING STEEL INSTITUTE |
| CS | POINT OF CURVE TO SPIRAL |
| CSP | CORRUGATED STEEL PIPE |
| Dc | DEGREE OF CURVATURE |
| DIA | DIAMETER |
| (E) | EXISTING |
| E OR EXP | EXPANSION |
| Ea | SUPERELEVATION ACTUAL |
| EG | EXISTING GROUND |
| ELEV. OR EL. | ELEVATION |
| EOP | END OF PROJECT |
| EP | END POINT |
| Eu | SUPERELEVATION UNBALANCED |
| EVCE | END VERTICAL CURVE ELEVATION |
| EVCS | END VERTICAL CURVE STATION |
| F OR FIX | FIXED OR FREIGHT |
| FG | FINISHED GRADE |
| GALV. | GALVANIZED |
| GR | GRADE |
| HDPE | HIGH DENSITY POLYETHYLENE |
| HORIZ. | HORIZONTAL |
| H.S. | HIGH STRENGTH |
| INV. | INVERT |
| K | "K" VALUE |
| LC | LENGTH OF CENTRAL CURVE |
| LF | LINEAR FEET |
| LS | LENGTH OF SPIRAL CURVE OR LUMP SUM |
| LT | CURVE LEFT |
| LVC | LENGTH OF VERTICAL CURVE |
| MIN. | MINIMUM |

## ABBREVIATIONS (CONT.)

| | |
|---|---|
| MISC. | MISCELLANEOUS |
| MK | MARK |
| MP | MILEPOST |
| (N) | NEW OR PROPOSED |
| OD | OPEN DECK |
| OHWM | ORDINARY HIGH WATER MEASURED |
| O-O | OUT-TO-OUT |
| P | PASSENGER |
| PC | POINT OF CURVATURE |
| PCF | POUNDS PER CUBIC FOOT |
| PERF | PERFORATED |
| PI | POINT OF INTERSECTION |
| PL | PROJECT LIMIT |
| PT | POINT OF TANGENT |
| PTFE | POLYTETRAFLUOROETHYLENE |
| PSI | POUNDS PER SQUARE INCH |
| PSF | POUNDS PER SQUARE FOOT |
| PVI | POINT OF VERTICAL INTERSECTION |
| R | RADIUS |
| RBBD | ROLLED BEAM BALLAST DECK |
| RBOD | ROLLED BEAM OPEN DECK |
| RDD | RAILROAD DRAINAGE DITCH |
| RR | RAILROAD |
| RT | CURVE RIGHT |
| R/W OR ROW | RIGHT OF WAY |
| SBM | STEEL BEAM |
| SC | POINT OF SPIRAL TO CURVE |
| SPA | SPACE OR SPACING |
| SPI | SPIRAL POINT OF INTERSECTION |
| SSHC | STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION |
| SSP | SMOOTH STEEL PIPE |
| SSPC | STEEL STRUCTURES PAINTING COUNCIL |
| ST | POINT OF SPIRAL TO TANGENT |
| STA. | STATION |
| SWPPP | STORM WATER POLLUTION PREVENTION PLAN |
| T | TANGENT LENGTH |
| T/XXX | TOP OF XXX (T/TIE, T/CAP, ETC.) |
| TOR | TOP OF RAIL |
| TPI | TOTAL HORIZONTAL CURVE POINT OF INTERSECTION |
| TPT | TIMBER PILE TRESTLE |
| TS | POINT OF TANGENT TO SPIRAL |
| TT | THROUGH TRUSS |
| TYP. | TYPICAL |
| UDF | UPPER DRAINAGE FEATURE |
| V | VELOCITY |
| VERT. | VERTICAL |
| YPC | YELLOW PLASTIC CAP |
| $\Delta c$ | CENTRAL ANGLE OF CIRCULAR CURVE |
| $\Delta T$ | TOTAL ANGLE OF DIVERGENCE |
| $\Theta s$ | ANGLE OF SPIRAL CURVE |

## LEGEND

### GENERAL

LETTER SERIES
SHEET NUMBER
SECTION DESIGNATION

LETTER SERIES
SHEET NUMBER
DETAIL DESIGNATION

EXISTING / PROPOSED

- SIGN
- PVI
- RIGHT OF WAY
- GROUNDLINE
- TRACK ℄
- ROADWAY ℄
- CHAIN LINK FENCE (X — X)
- FILL LIMITS
- EXCAVATION LIMITS
- STRUCTURE
- EXISTING STRUCTURE TO BE REMOVED

### UTILITIES

EXISTING / PROPOSED

- POWER POLE
- ELECTRICAL PEDISTAL (U.T.)
- GUY ANCHOR
- FIBER OPTIC VAULT (FO)
- OVERHEAD POWER (OE)
- FIBER OPTIC LINE (FO)

### TOPOGRAPHY

EXISTING / PROPOSED

- MAJOR CONTOUR (100')
- MINOR CONTOUR
- CONTROL POINT (CP)
- FLOW DIRECTION

## HYDROLOGIC AND HYDRUALIC SUMMARY

| DRAINAGE FEATURE | Q100 (CFS) | H/D | DIAMETER (IN) |
|---|---|---|---|
| CULVERT CU 01 (MP 356.9) | 4.9 | 0.3 | 36 |
| CULVERT CU02 (MP 357.1) | 1.7 | N/A | 36 |
| UDF DRAIN PIPE | 2.6* | N/A | (2) 6 |

*MAXIMUM CUMULATIVE DISCHARGE OF INTERCEPTOR DITCH

| NO. | DATE | REVISION | BY | CHK | APPD |
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ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
SLOPE STABILITY AND DRAINAGE IMPROVEMENTS
ABREVIATIONS, LEGEND, AND H&H SUMMARY

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-G000 | G-002 | 01 |

# MP 357.1 SLOPE STABILITY AND DRAINAGE IMPROVEMENTS

| TABLE OF PAY ITEMS | | | |
|---|---|---|---|
| ITEM NO. | ITEM DESCRIPTION | PAY UNIT | TOTAL QUANTITY |
| 201.0003 | CLEARING AND GRUBBING | ACRE | 5.5 |
| | | | |
| 203.0003 | UNCLASSSIFIED EXCAVATION | CUBIC YARD | 23,000 |
| 203.0005 | BORROW, TYPE A | CUBIC YARD | 100 |
| 203.0006 | SELECTED MATERIAL, REUSABLE | TON | 25,000 |
| | | | |
| 603.0001 | CSP 24 INCH DIAMETER | LINEAR FOOT | 26 |
| 603.0023.1 | SMOOTH STEEL PIPE, 8 INCH DIAMETER | LINEAR FOOT | 140 |
| 603.0023.2 | SMOOTH STEEL PIPE, 36 INCH DIAMETER | LINEAR FOOT | 55 |
| 603.0024 | CLEANING AND REPAIR PIPE | EACH | 1 |
| 603.0025 | LINER FOR STORM DRAIN, 36 INCH DIAMETER | EACH | 1 |
| 603.0026.1 | DRIVEN PIPE, 8 INCH DIAMETER | LINEAR FOOT | 140 |
| 603.0026.2 | DRIVEN PIPE, 36 INCH DIAMETER | LINEAR FOOT | 55 |
| | | | |
| 605.0005 | POROUS BACKFILL MATERIAL | CUBIC YARD | 2,000 |
| 605.0006 | PERFORATED CORRUGATED HDPE PIPE FOR UNDERDRAIN, 6 INCH | LINEAR FOOT | 2,620 |
| | | | |
| 610.0005 | DITCH LINER, BUTYL 60 MIL OR RPP 45 MIL OR RPE 30 MIL | SQUARE YARD | 2,800 |
| | | | |
| 611.0001.1 | RIPRAP, CLASS I | CUBIC YARD | 2,000 |
| 611.0001.2 | RIPRAP, CLASS II | CUBIC YARD | 180 |
| | | | |
| 618.0001 | SEEDING | ACRE | 2 |
| | | | |
| 631.0001 | GEOTEXTILE, DRAINAGE, CLASS 2 | SQUARE YARD | 6,500 |
| 631.0002 | GEOTEXTILE, EROSION CONTROL, CLASS 1 | SQUARE YARD | 3,900 |
| | | | |
| 633.0001 | SILT FENCE | LF | 1,250 |
| | | | |
| 640.0001 | MOBILAZATION AND DEMOBILIZATION | LUMP SUM | ALL REQUIRED |
| | | | |
| 641.0001 | EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION | LUMP SUM | ALL REQUIRED |
| 641.0003 | TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL | LUMP SUM | ALL REQUIRED |
| 641.0007 | SWPPP MANAGER | LUMP SUM | ALL REQUIRED |
| | | | |
| 642.0001 | CONSTRUCTION SURVEYING | LUMP SUM | ALL REQUIRED |
| | | | |
| 646.0001 | CPM SCHEDULING | LUMP SUM | ALL REQUIRED |

NOTES:

1. PAY ITEM QUANTITIES ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR THEIR OWN QUANTITY TAKE-OFFS USING THE INFORMATION WITHIN THE CONTRACT DOCUMENTS TO VERIFY THE QUANTITIES LISTED HEREON.
2. APPROXIMATE QUANTITIES BASED ON EXCAVATION LIMITS SHOWN ON THE PLANS. THE CONTRACTOR MAY ELECT TO SUBMIT A VALUE ENGINEERING CHANGE PROPOSAL (VECP) IN ACCORDANCE WITH SUBSECTION 104-1.06. SHOULD THEIR MEANS AND METHODS RESULT IN A REDUCTION IN THE EXCAVATION LIMITS, THAT SHALL REDUCE PAY ITEM QUANTITIES.

| TABLE OF ESTIMATING FACTORS | | |
|---|---|---|
| ITEM NO. | ITEM DESCRIPTION | ESTIMATING FACTOR |
| 203.0006 | SELECTED MATERIAL | 135 LB/FT$^3$ |

| NO. | DATE | REVISION | BY | CHK | APPD |
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| | | | | | |

IFB PLANS

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ARRC MP 357.1
SLOPE STABILITY AND DRAINAGE IMPROVEMENTS
ESTIMATE OF QUANTITIES

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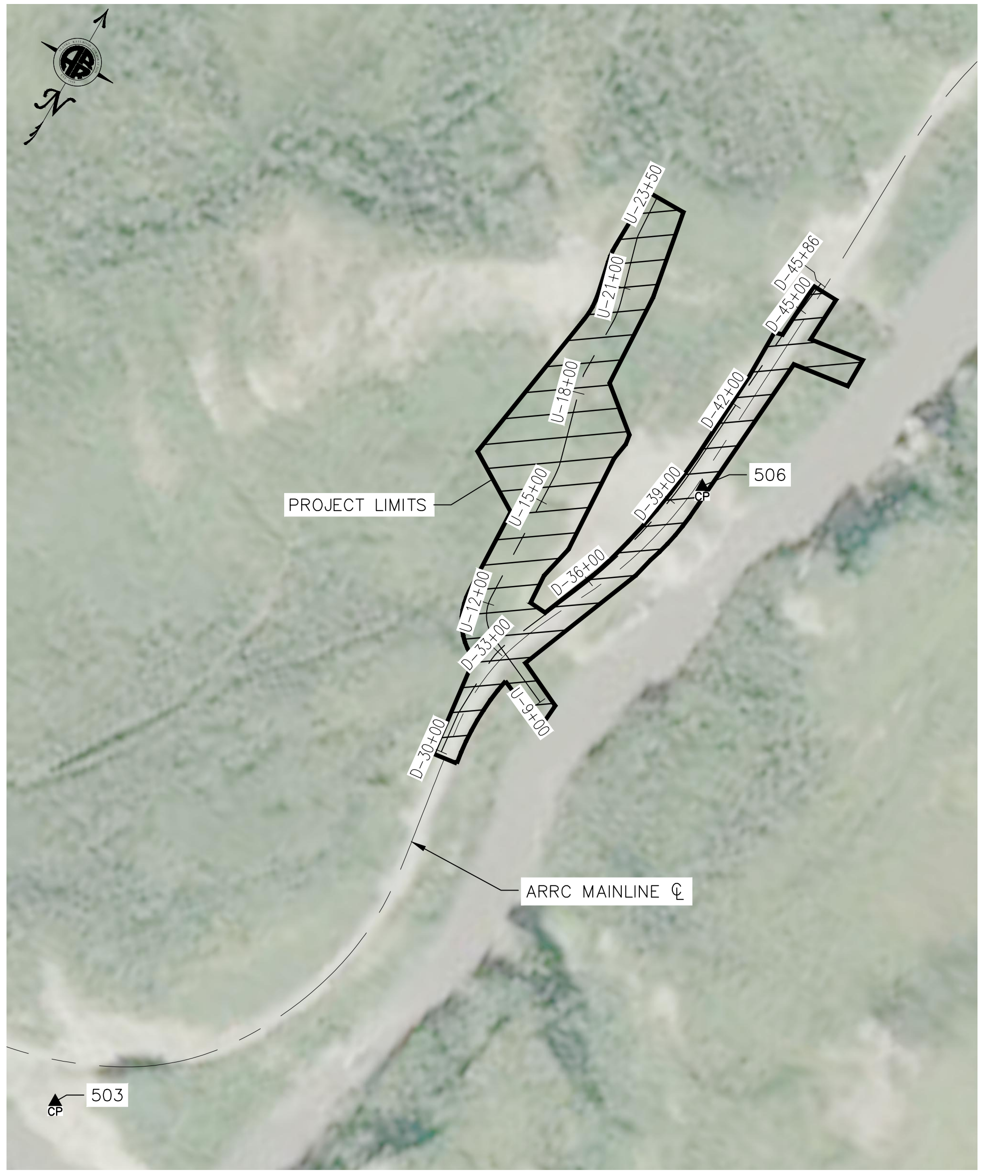


0 250 500 Feet

## SURVEY CONTROL PLAN

1" = 500'

### SURVEY CONTROL NOTES

1. VERIFY HORIZONTAL AND VERTICAL CONTROL PRIOR TO USE.
2. ALL DISTANCES SHOWN ARE GRID DISTANCES, IN U.S. SURVEY FEET.
3. THE BASIS OF COORDINATES IS THE NAD83(2011) OPUS AVERAGED POSITION OF POINT #506.
4. BASIS OF BEARING IS N16° 59' 31.79" OVER THE 2050.60' LINE BETWEEN POINT #503 AND #506 IN STATE PLANE ZONE 4.
5. THE BASIS OF ELEVATION IS THE OPUS AVERAGED GEOID12B (NAD83) ELEVATION OF 1382.87 AT POINT #506.
6. MOST RECENT FIELD SURVEY DONE IN OCTOBER 2022.
7. PROJECT CONTROL POINTS ARE SHOWN IN THE SURVEY CONTROL PLAN AND TABLE BELOW.

### PROJECT CONTROL

| POINT | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 506 | 3596984.90 | 1808583.55 | 1382.87 | 5/8 IN REBAR FLUSH |
| 503 | 3594832.55 | 1807925.83 | 1396.84 | 5/8 IN REBAR FLUSH |

### "UDF" ALIGNMENT DATA TABLE

| POINT | STATION | DELTA | Dc | RADIUS | LENGTH | BEARING | NORTHING | EASTING |
|---|---|---|---|---|---|---|---|---|
| BP | U-9+00.00 | – | – | – | 20.00 | N 65° 50' 19.8026" W | 3596288.01 | 1808498.59 |
| BOP | U-9+20.00 | – | – | – | 186.08 | N 65° 50' 19.8026" W | 3596296.20 | 1808480.34 |
| PC | U-11+06.08 | 63° 32' 34.8538" | 57.2958 | 100.00 | 110.90 | – | 3596372.36 | 1808310.56 |
| PI | U-11+68.01 | – | – | – | – | – | 3596397.71 | 1808254.05 |
| PT | U-12+16.98 | – | – | – | 356.57 | N 02° 17' 44.9489" W | 3596459.59 | 1808251.57 |
| PC | U-15+73.55 | 13° 04' 19.5231" | 28.6479 | 200.00 | 45.63 | – | 3596815.87 | 1808237.29 |
| PI | U-15+96.46 | – | – | – | – | – | 3596838.77 | 1808236.37 |
| PT | U-16+19.18 | – | – | – | 216.37 | N 15° 22' 04.4720" W | 3596860.86 | 1808230.30 |
| PC | U-18+35.55 | 14° 47' 26.9852" | 57.2958 | 100.00 | 25.82 | – | 3597069.50 | 1808172.96 |
| PI | U-18+48.53 | – | – | – | – | – | 3597082.01 | 1808169.52 |
| PT | U-18+61.36 | – | – | – | 138.20 | N 00° 34' 37.4868" W | 3597094.99 | 1808169.39 |
| PC | U-19+99.57 | 15° 06' 14.5638" | 22.9183 | 250.00 | 65.90 | – | 3597233.19 | 1808167.99 |
| PI | U-20+32.71 | – | – | – | – | – | 3597266.33 | 1808167.66 |
| PT | U-20+65.47 | – | – | – | 163.86 | N 15° 40' 52.0505" W | 3597298.24 | 1808158.70 |
| PC | U-22+29.33 | 12° 23' 59.4448" | 57.2958 | 100.00 | 20.67 | – | 3597456.00 | 1808114.41 |
| PI | U-22+40.19 | – | – | – | – | – | 3597466.46 | 1808111.48 |
| EOP | U-22+50.00 | – | – | – | 0.97 | – | 3597476.34 | 1808110.91 |
| PT | U-22+50.97 | – | – | – | 99.03 | N 03° 16' 52.6058" W | 3597477.31 | 1808110.86 |
| EP | U-23+50.00 | – | – | – | – | – | 3597576.17 | 1808105.19 |

### "RDD" ALIGNMENT DATA TABLE

| POINT | STATION | DELTA | Dc | RADIUS | LENGTH | BEARING | NORTHING | EASTING |
|---|---|---|---|---|---|---|---|---|
| BP | D-30+00.00 | – | – | – | 109.3 | N 06° 05' 31.4348" W | 3596047.49 | 1808340.49 |
| PI | D-31+09.29 | – | – | – | 40.7 | N 01° 21' 43.9773" E | 3596156.14 | 1808328.89 |
| BOP | D-31+50.00 | – | – | – | 107.63 | N 01° 21' 43.9773" E | 3596196.83 | 1808329.86 |
| PC | D-32+57.63 | 21° 38' 21.9765" | 27.1476 | 211.05 | 79.71 | – | 3596304.43 | 1808332.42 |
| PI | D-32+97.96 | – | – | – | – | – | 3596344.75 | 1808333.38 |
| PT | D-33+37.34 | – | – | – | 217.1 | N 23° 00' 05.9538" E | 3596381.88 | 1808349.14 |
| PC | D-35+54.43 | 19° 12' 14.6412" | 4.167 | 1375 | 460.87 | – | 3596581.72 | 1808433.97 |
| PI | D-37+87.05 | – | – | – | – | – | 3596795.84 | 1808524.87 |
| PT | D-40+15.30 | – | – | – | 408.8 | N 03° 47' 51.3126" E | 3597027.94 | 1808540.28 |
| PI | D-44+24.10 | – | – | – | 125.9 | N 06° 43' 57.7979" E | 3597435.84 | 1808567.35 |
| EOP | D-45+50.00 | – | – | – | 36.13 | N 06° 43' 57.7979" E | 3597560.88 | 1808582.11 |
| EP | D-45+86.13 | – | – | – | – | – | 3597596.75 | 1808586.35 |

LEGEND:

PROJECT LIMITS FOR PROPOSED FEATURES, STAGING, AND STOCKPILING

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IFB PLANS

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ALASKA RAILROAD

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SLOPE STABILITY AND DRAINAGE IMPROVEMENTS
SURVEY CONTROL AND LAYOUT

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
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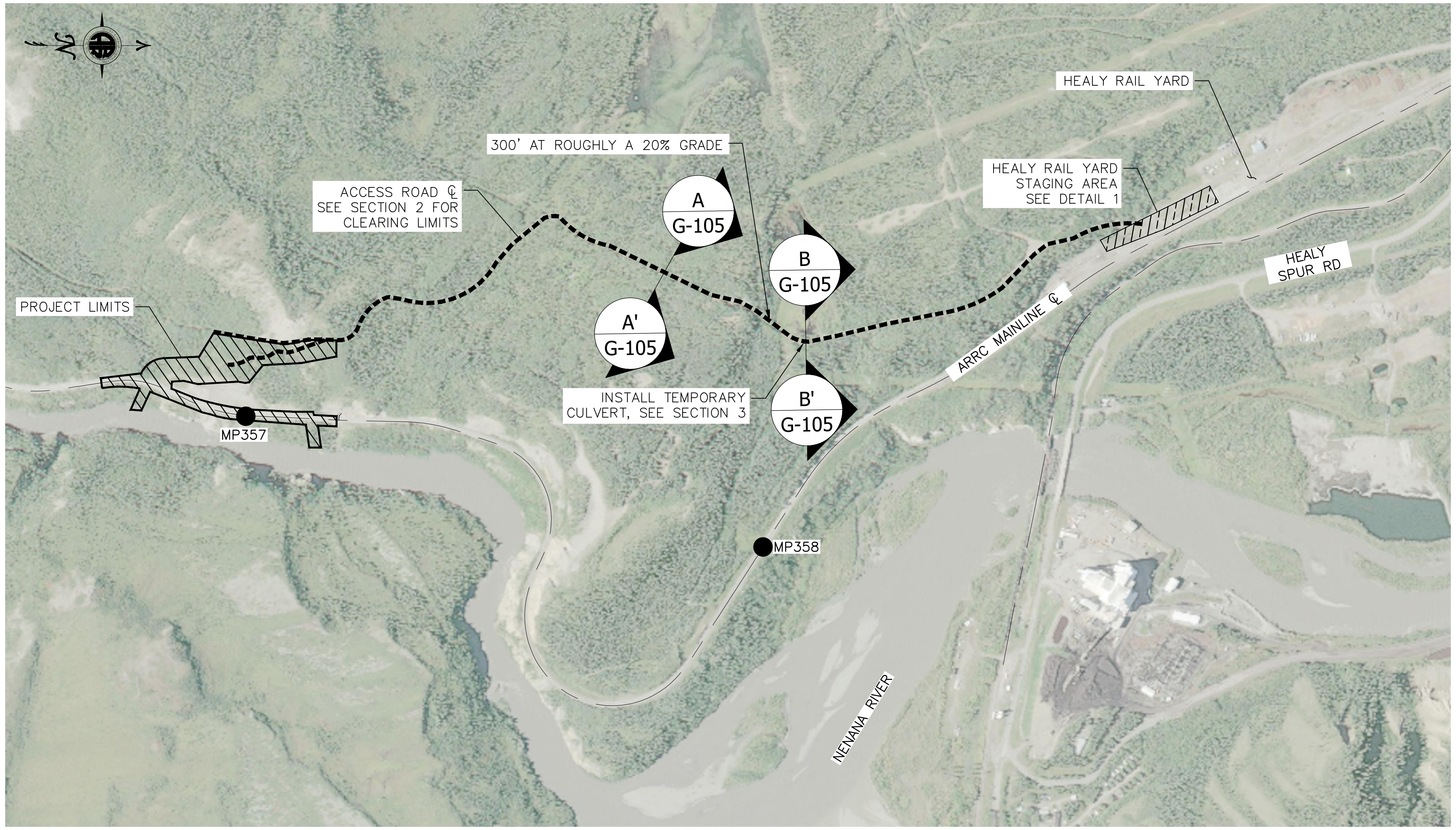
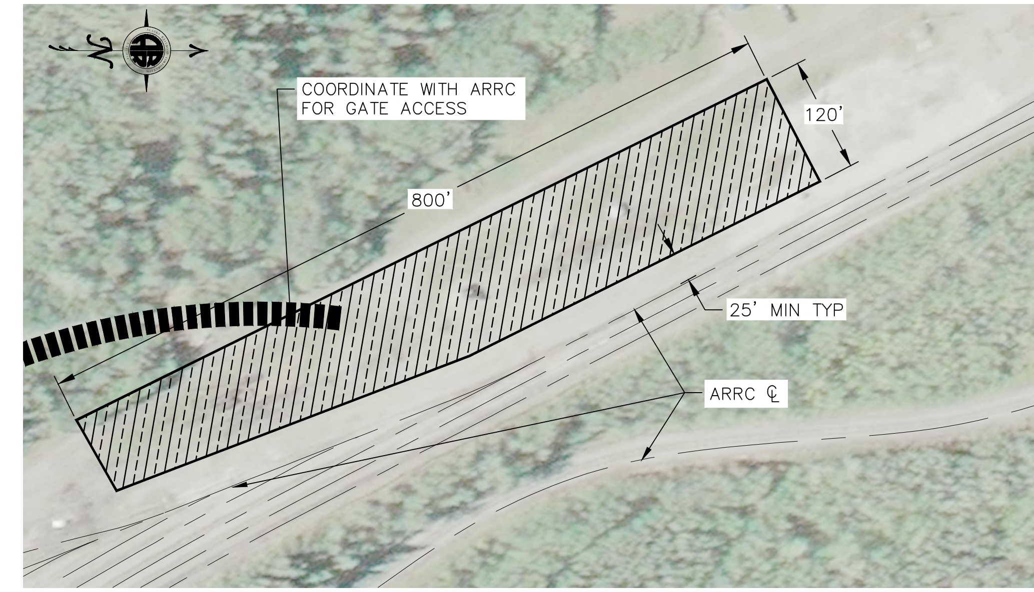



0 500 1000 Feet

## SITE STAGING PLAN

1" = 1000'



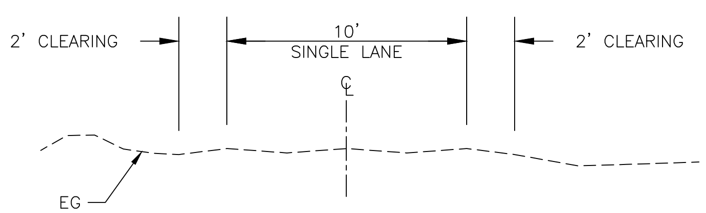

0 100 200 Feet

## 1 HEALY RAILYARD STAGING DETAIL

1" = 200'

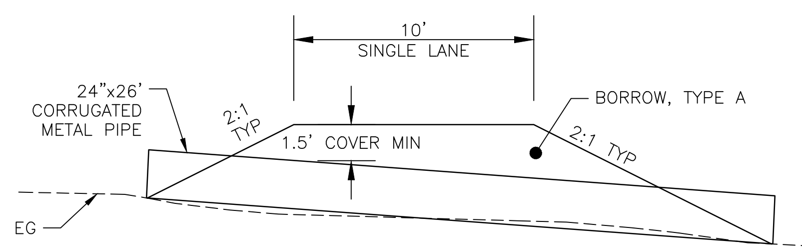
### SITE STAGING NOTES

1. COORDINATE WITH ARRC TO STAGE IN THE HEALY RAILYARD STAGING AREA PRIOR TO MOBILIZING TO PROJECT SITE AREA.
2. PROVIDE ARRC AT LEAST 10 DAYS OF NOTICE BEFORE THE STAGING OF A MATERIAL OR EQUIPMENT




## A ACCESS ROAD TYPICAL

1" = 8'




## B TEMPORARY STREAM CROSSING CULVERT

1" = 8'

### ACCESS ROAD NOTES

1. THE SHOWN 1.2 MILE ACCESS ROAD UTILIZES AN OFF ROAD TRAIL WITH GATE ACCESS FROM THE HEALY RAIL YARD. IT IS NOT REGULARLY MAINTAINED AND HAS STEEP AND NARROW SECTIONS ONLY TRAVERSABLE BY TRACKED OR OFF ROAD VEHICLES.

1.1. THE MOST CHALLENGING SECTIONS ARE A 300' LONG HILL AT A ROUGHLY 20% GRADE AND A SHALLOW SEASONAL STREAM CROSSING ROUGHLY 20' WIDE AND 2' DEEP LOCATED AT THE RESPECTIVE CALLOUTS ON THE PLAN VIEW.

2. IF ACCESS ROAD IMPROVEMENTS ARE REQUIRED TO MOBILIZE EQUIPMENT AND MATERIALS TO THE PROJECT SITE BEYOND WHAT IS SHOWN IN DETAIL 2 AND 3, ARRC MUST APPROVE OF THE SCOPE AND PROPOSED CHANGES PRIOR TO THE WORK COMMENCING.

2.1. ADDITIONAL ACCESS ROAD IMPROVEMENTS WILL BE SUBSIDIARY TO THE 640.0001.0000 MOBILIZATION AND DEMOBILIZATION ITEM UNLESS APPROVED BY ARRC.

### LEGEND:

- CENTERLINE FOR ACCESS ROAD IMPROVEMENTS
- PROJECT LIMITS FOR PROPOSED FEATURES, STAGING, AND STOCKPILING
- HEALY RAILYARD STAGING AREA

| NO. | DATE | REVISION | BY | CHK | APPD |
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ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
SLOPE STABILITY AND DRAINAGE IMPROVEMENTS
ACCESS ROAD & SITE STAGING DETAILS

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
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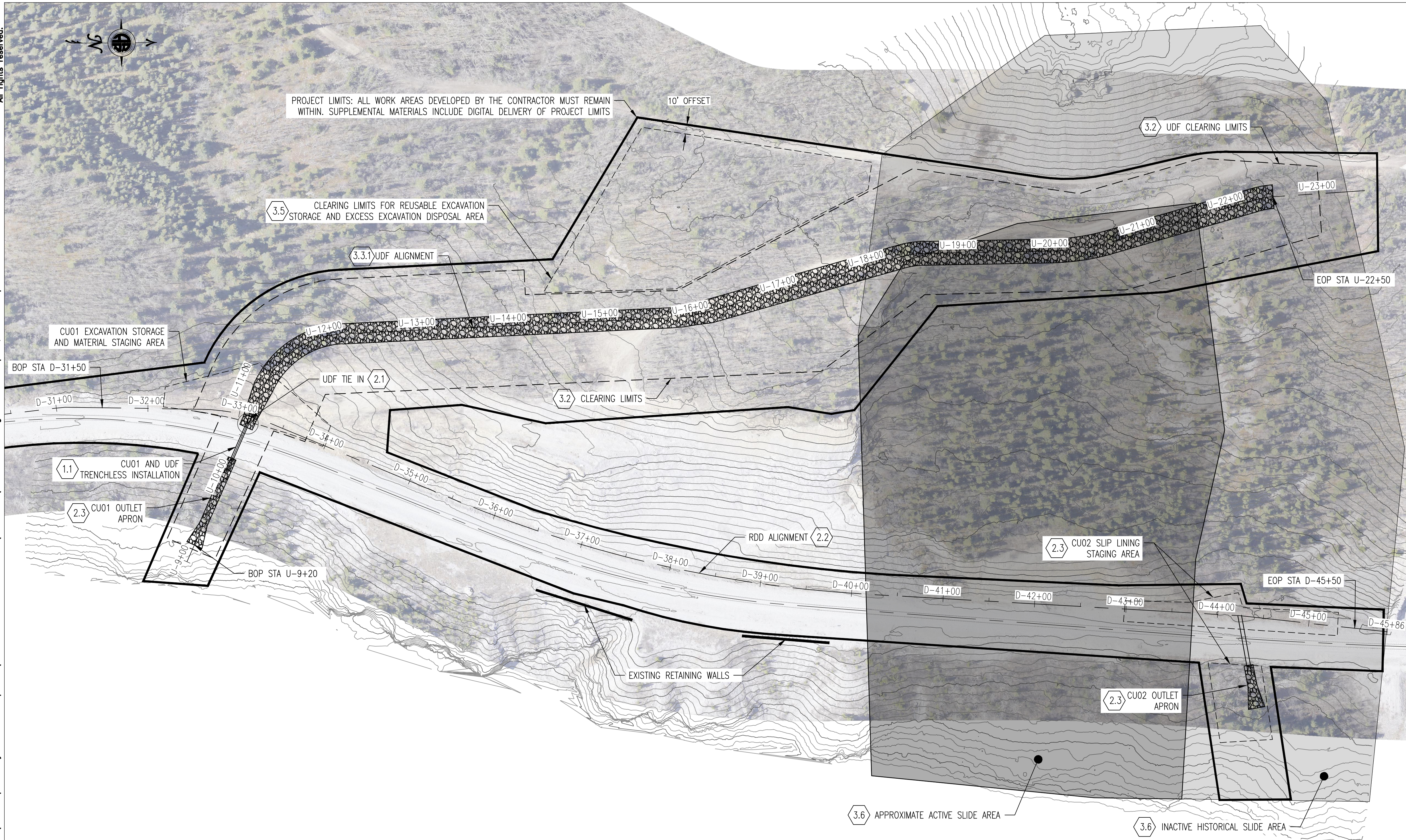



0 60 120 Feet

## MP357.1 CONSTRUCTION PHASING PLAN

1" = 120'

## SCOPE OF WORK SUMMARY

1. CONTRACTOR WILL COORDINATE WITH THE ALASKA RAILROAD CORPORATION (ARRC) TO INSTALL ONE NEW 36" CULVERT AND TWO 8" CASINGS UNDER EXISTING RAILROAD WITH TRENCHLESS METHODS, SLIPLINE AN EXISTING REINFORCED CONCRETE CULVERT WITH A 36" HDPE LINER, REGRADE 1,500' OF THE EXISTING TRACK SIDE RAILROAD DRAINAGE DITCH (RDD), AND INSTALL THE UPPER DRAINAGE FEATURE (UDF) WITHIN THE PERMITTED PROJECT LIMITS.
2. THE UDF WILL INCLUDE TRENCH EXCAVATION TO INSTALL TWO PERFORATED HDPE DRAIN PIPES AND CONSTRUCT A SURFACE DITCH FOLLOWING THE ALIGNMENT AND PROFILES SHOWN ON SHEET C-102. THE TYPICAL SECTION VARIES ALONG THE ALIGNMENT ACCORDING TO THE SECTIONS SHOWN ON SHEET C-103. TRENCH DEPTH VARIES FROM 10-30' ALONG THE ALIGNMENT AND DAYLIGHTS ON THE DOWNHILL SIDE OF THE RAILROAD. EACH PERFORATED HDPE DRAIN PIPE DISCHARGES INTO AN 8" STEEL CASING, SEE SHEET C-105 FOR DETAILS.
3. UNDER PAY ITEM 646.0001 CPM SCHEDULING, MODIFY AND EXPAND THE SUGGESTED CONSTRUCTION, STAGING, AND PHASING NOTES WORK ITEMS TO INCLUDE ALL WORK TO COMPLETE THE PROJECT AND UTILIZE THE CRITICAL PATH METHOD TO ESTIMATE THE TOTAL PROJECT DURATION.

## SUGGESTED CONSTRUCTION STAGING AND PHASING NOTES:

1. TRACK OUTAGE WORK - SEE SPECIFICATIONS FOR DEFINITION AND REQUIREMENTS. OUTAGE WORK EXPECTED TO INCLUDE THE FOLLOWING:

   1.1. TRENCHLESS INSTALLATION OF CULVERT 01 AND UDF DRAIN LINE CASINGS. SEE SHEET C-105 FOR DETAILS.

2. FLAGGING WORK - SEE SPECIFICATIONS FOR DEFINITION AND REQUIREMENTS. FLAGGING WORK EXPECTED TO INCLUDE THE FOLLOWING:

   2.1. UDF TIE IN WITH CU01 AND DRAIN LINE CASINGS

   2.2. EXCAVATION AND GRADING OF THE RDD. SEE SHEET C-104.

   2.3. CULVERT DRAINAGE APRONS AND CU02 SLIPLINING. SEE SHEETS C-105 AND C-106.

3. WORK 100' OFF ARRC MAINLINE CENTERLINE IS OUTSIDE THE OPERATIONAL RIGHT OF WAY AND WITHIN THE APPROVED CONSTRUCTION TIME FRAME CAN COMMENCE AT THE DISCRETION OF THE CONTRACTOR. THE FOLLOWING OUTLINES THIS WORK IN THE SUGGESTED ORDER IT BE PERFORMED.

   3.1. ACCESS ROAD SHOULDER CLEARING AND IMPROVEMENTS FOR CONTRACTOR EQUIPMENT MOBILIZATION.

   3.2. PROJECT AREA CLEARING AND GRUBBING OF UDF AREA, STORAGE/DISPOSAL AREA, MATERIAL STOCKPILE SITES, AND STAGING AREAS.

   3.3. UPPER DRAINAGE FEATURE EXCAVATION AND CONSTRUCTION AFTER THE CU01 CULVERT AND UDF DRAIN CASINGS ARE IN PLACE AND APPROVED.

      3.3.1. PLAN TO START AT THE CU01 CULVERT INLET APRON AND WORK ALONG THE PROPOSED ALIGNMENT UP THE HILL. WORK INCLUDES EXCAVATION, PLACEMENT OF THE PERFORATED HDPE DRAIN LINES, DRAINAGE GEOTEXTILE, POROUS ROCK FILL, AND REUSABLE EXCAVATION TRENCH BACKFILL AND BERM CONSTRUCTION TO FORM THE SURFACE DITCH.

      3.3.2. ALLOW NO MORE THAN 400' OF OPEN TRENCH EXCAVATION AT ONE TIME. SEE SHEET C-102, AND C-103 FOR DETAILS. DESIGN CROSS SECTIONS ARE SHOWN ON SHEETS C-108 THROUGH C-112.

   3.4. PLACING RIPRAP WITHIN THE UDF SURFACE DITCH FOOTPRINT. SEE SHEET C-103 FOR DETAILS.

   3.5. FINAL STABILIZATION OF NON REUSED EXCAVATION MATERIALS IN DESIGNATED DISPOSAL AREA AND/OR OPTIONAL UDF BERM EXTENSIONS. THE CAPACITY OF DISPOSAL AREA IS ROUGHLY 6,000CY. THE CAPACITY OF THE UDF BERM EXTENSIONS IS ROUGHLY 4,250

   3.6. ALL EXCAVATION STORAGE AND DISPOSAL MUST BE OUTSIDE OF THE ACTIVE AND HISTORICAL SLIDE AREA ZONES, DOWN STATION OF U-18+00 AND D-40+00

## LEGEND

CALLOUTS WITH SUGGESTED CONSTRUCTION STAGING AND PHASING NOTES.

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

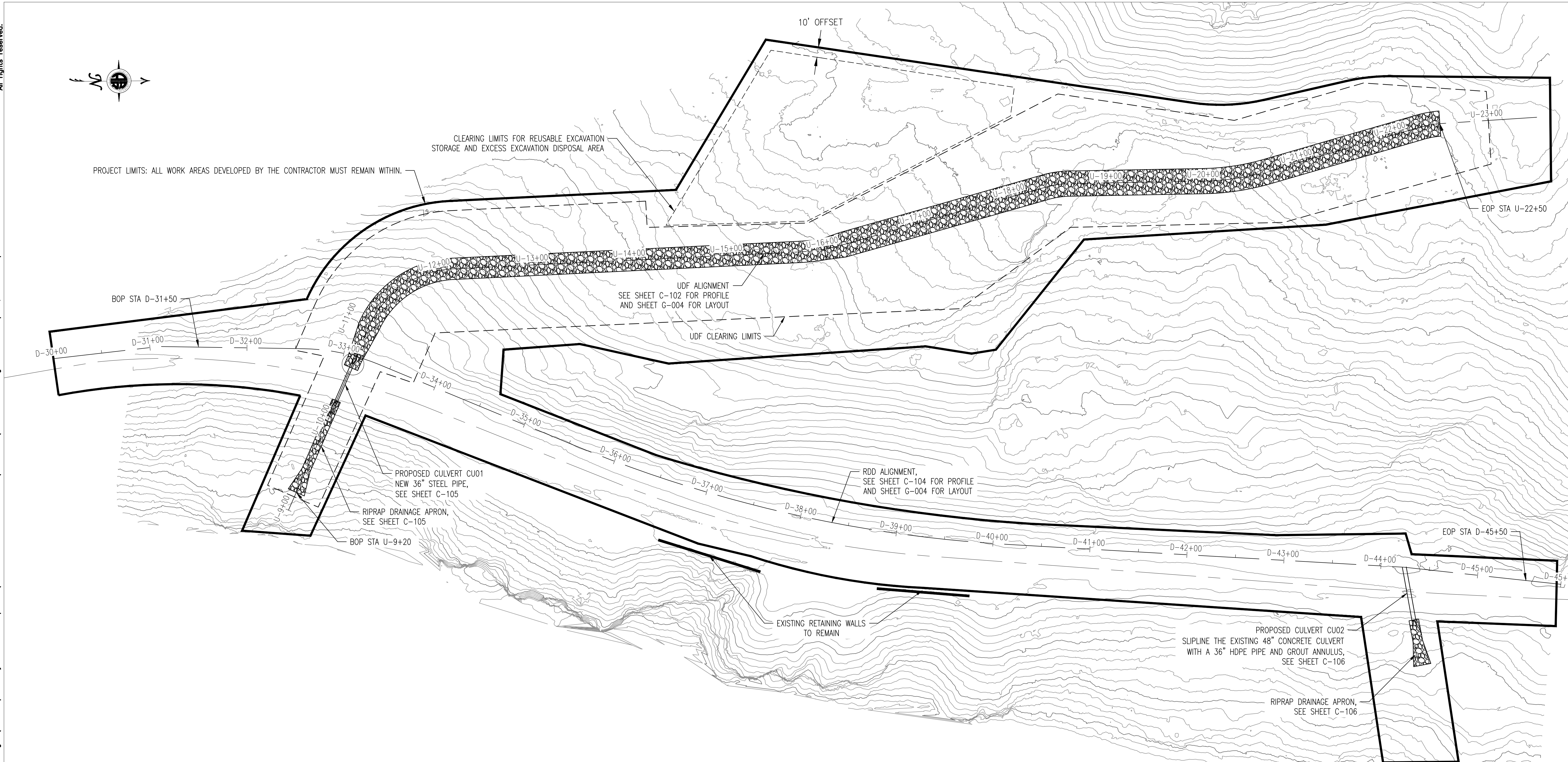
| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
SLOPE STABILITY AND DRAINAGE IMPROVEMENTS
SUGGESTED CONSTRUCTION STAGING AND PHASING

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-G000 | G-006 | 01 |




0 50 100 Feet

**MP357.1 SITE PLAN**

1" = 100'

UTILITIES:

VERIFY ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
LOCATE CALL CENTER OF ALASKA (811):
- ANCHORAGE ............1.907.278.3121
- STATEWIDE ..............1.800.478.3121

CALL CENTER WILL NOTIFY SUBSCRIBED UTILITIES ONLY, OTHER UTILITIES NEED TO BE CONTACTED INDIVIDUALLY.

## LEGEND:

- RIPRAP, CLASS I
- RIPRAP, CLASS II

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

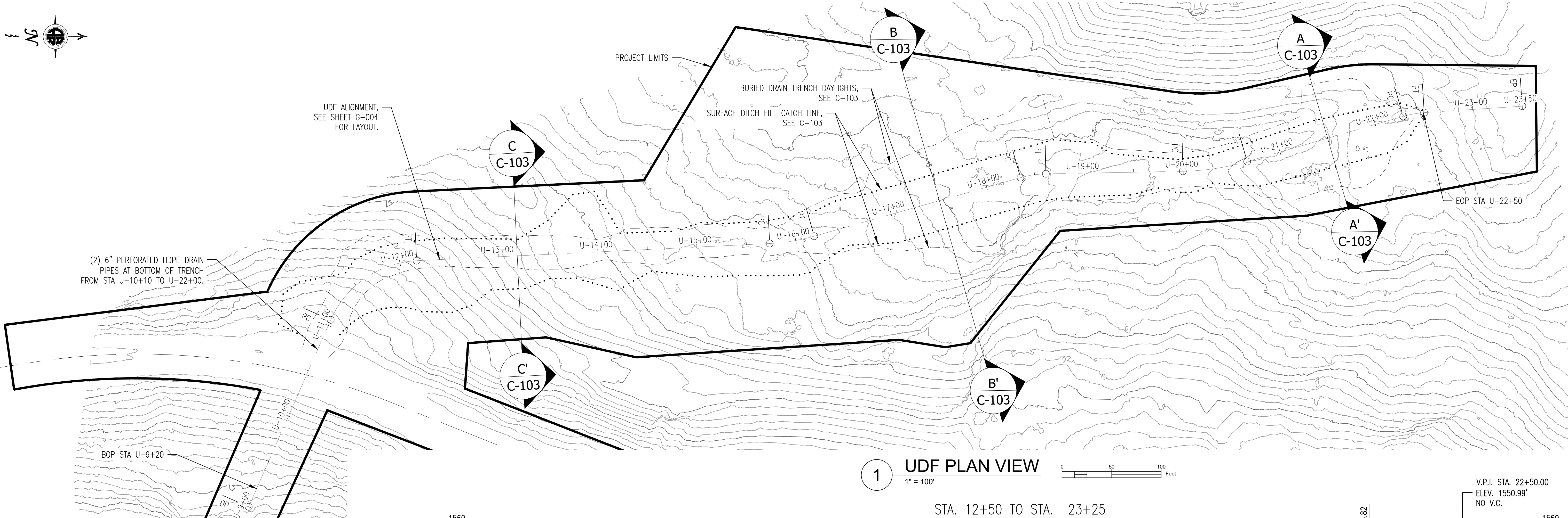
| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

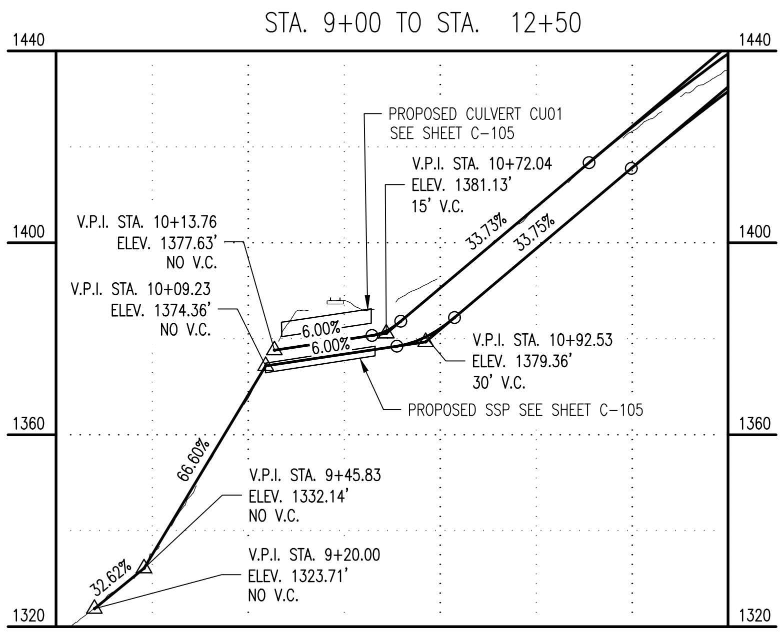
Michael Baker INTERNATIONAL

ARRC MP 357.1
PROPOSED FEATURES
CIVIL SITE PLAN

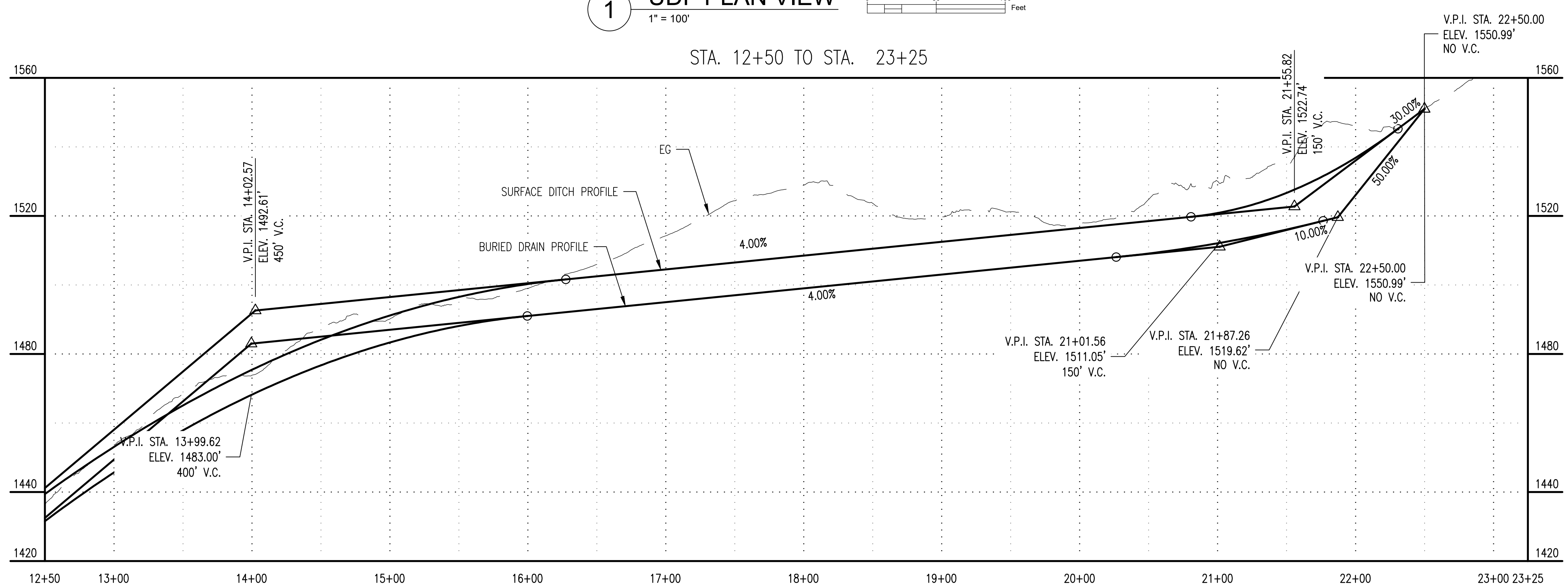
| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162–C100 | C–101 | 01 |




1 UDF PLAN VIEW
1" = 100'
0 50 100 Feet




2 UDF PROFILE VIEW
1" = 100', 1H:2.5V




3 UDF PROFILE VIEW
1" = 100', 1H:2.5V

LEGEND:

- UDF BURIED DRAIN TRENCH EXCAVATION DAYLIGHTS
- UDF SURFACE DITCH AND BERM CATCH LINE
- EG SURFACE 25' MAJOR CONTOUR LINE
- EG SURFACE 5' MINOR CONTOUR LINE

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

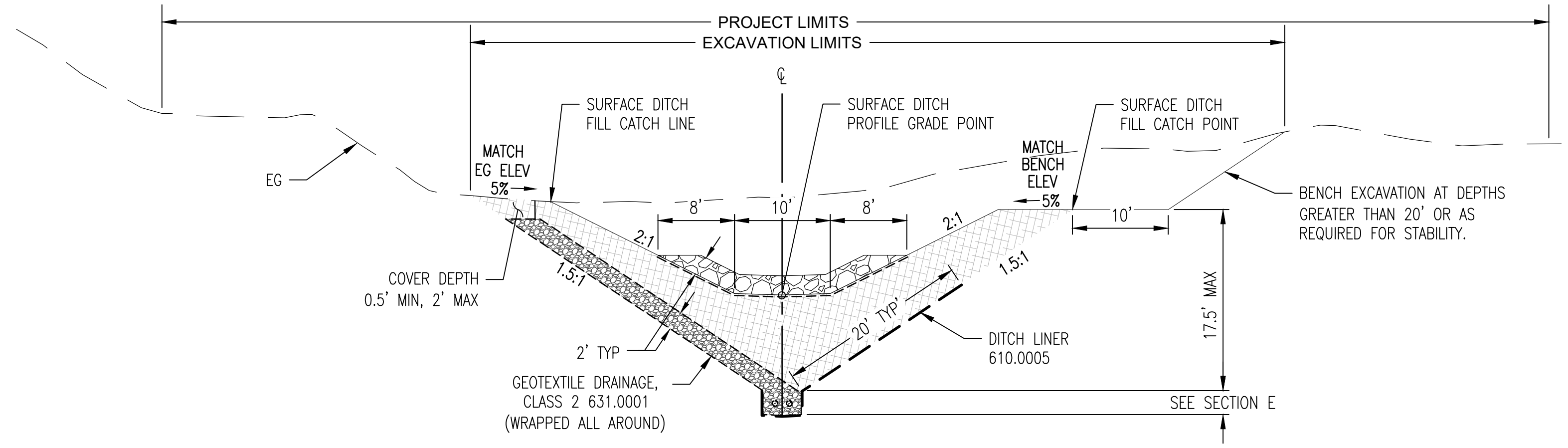
| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

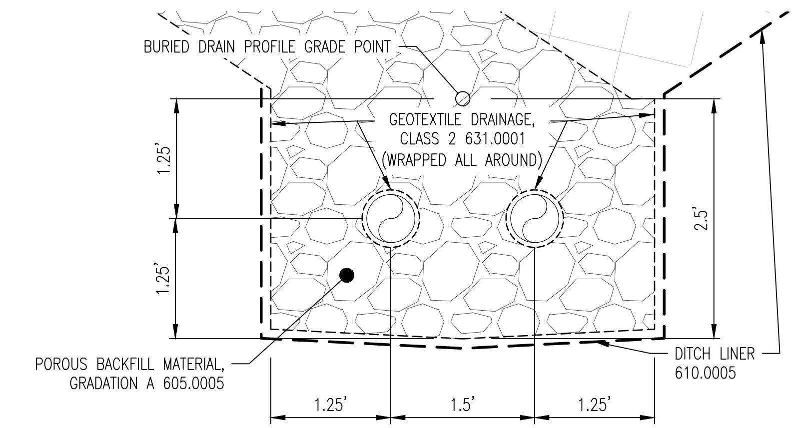
Michael Baker INTERNATIONAL

ARRC MP 357.1
UPPER DRAINAGE FEATURE
PLAN & PROFILE VIEW

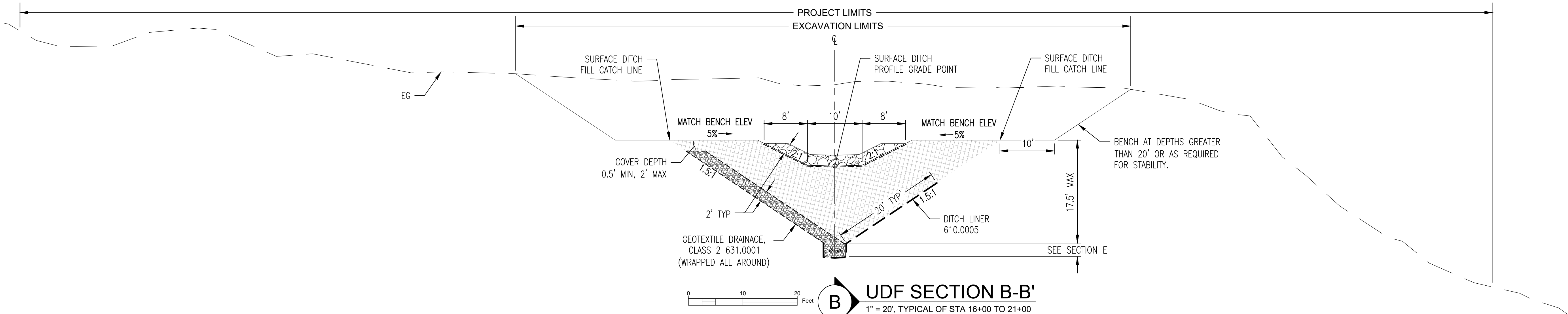
| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-102 | 01 |




A UDF SECTION A-A'
1" = 20', TYPICAL OF STA 21+00 TO 22+50




E UDF TRENCH BOTTOM
1" = 2'

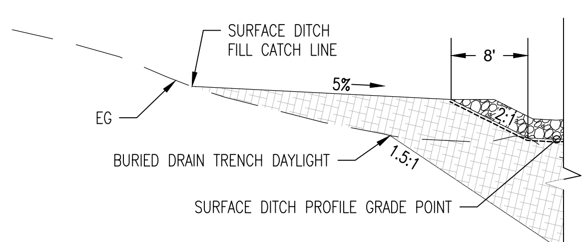



B UDF SECTION B-B'
1" = 20', TYPICAL OF STA 16+00 TO 21+00

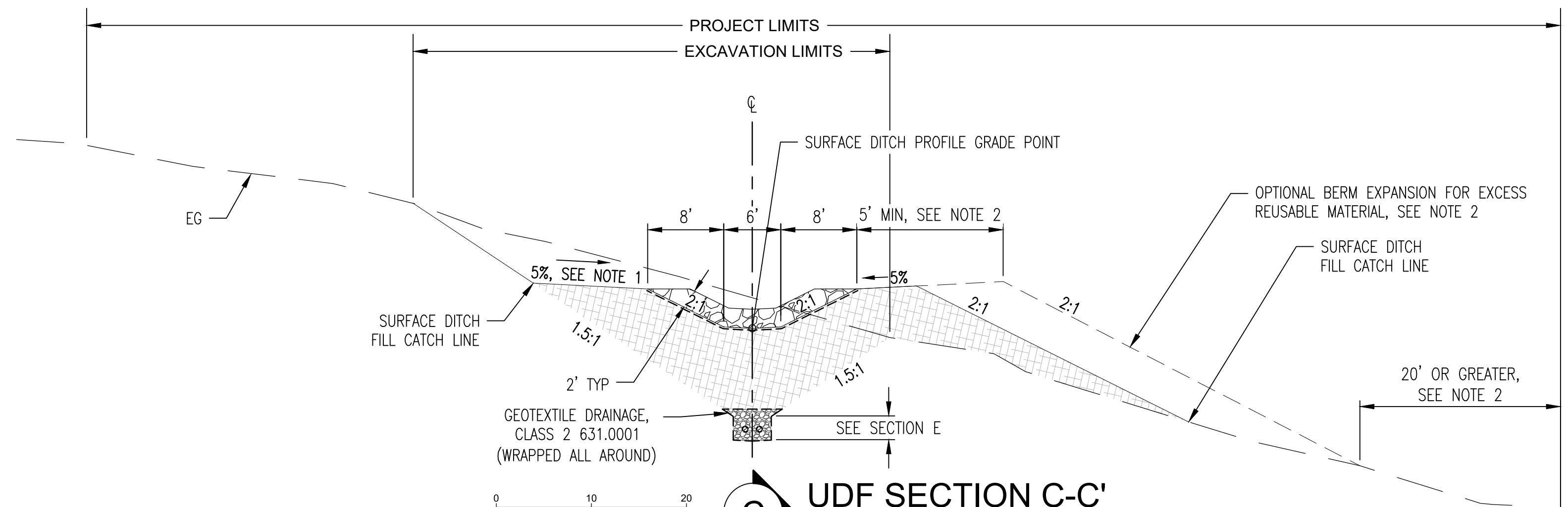
## SECTION VIEW NOTES:

1. PLACE ALL REUSABLE EXCAVATION TO CREATE A 5% SLOPE TOWARDS SURFACE DITCH. THE CATCH POINT WILL EITHER BE WITHIN THE FOOTPRINT OF THE TRENCH EXCAVATION OR GO TO EXISTING GROUND. SEE SECTION D FOR ALTERNATIVE DAYLIGHT CASE.

2. SURFACE DITCH FILL CATCH LINE SHOWN FOR 5' MINIMUM TOP WIDTH. EXCESS REUSABLE EXCAVATION CAN BE PLACED BY INCREASING BERM WIDTH FROM STATION 11+50 TO 16+00. WIDENED BERMS MUST MAINTAIN A 20' OR LARGER BUFFER BETWEEN THE FILL SLOPE CATCH LINE AND PROJECT LIMITS.




D UDF ALTERNATE DAYLIGHT
1" = 20'




C UDF SECTION C-C'
1" = 20', TYPICAL OF STA 10+10 TO 16+00

## LEGEND:

- GEOTEXTILE, DRAINAGE, CLASS 2
- SELECTED MATERIAL, REUSABLE
- POROUS BACKFILL MATERIAL
- DITCH LINER
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
UPPER DRAINAGE FEATURE
SECTION VIEWS

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-103 | 01 |

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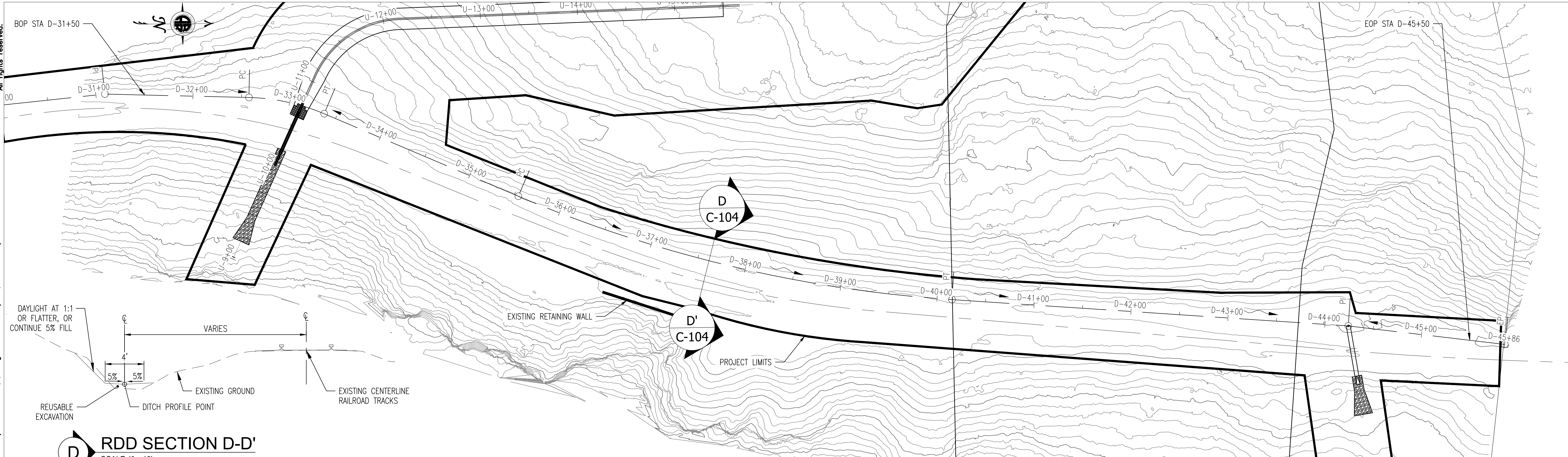
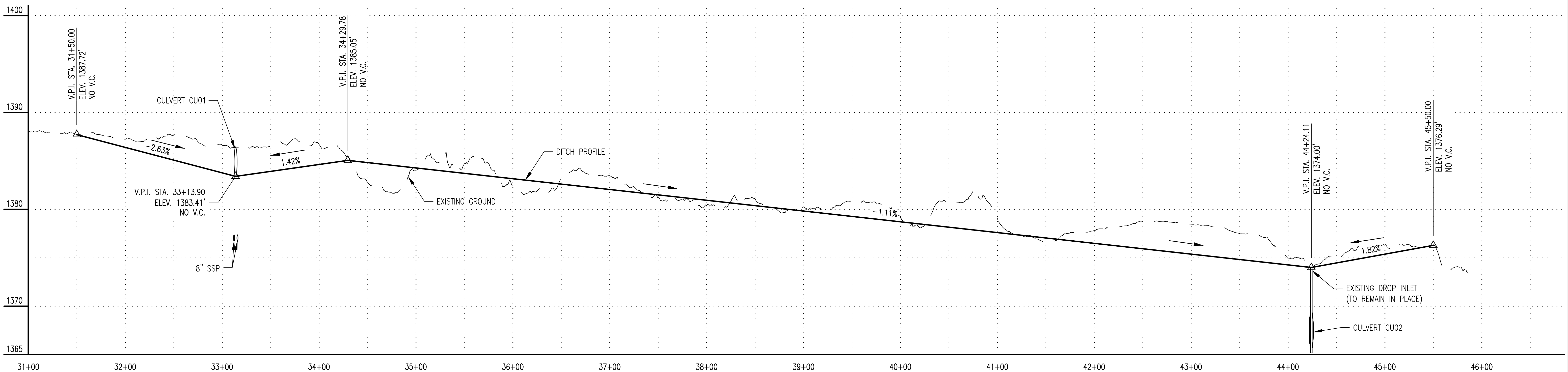



1 RDD PLAN VIEW
1" = 100'



D RDD SECTION D-D'
SCALE 1" = 10'




2 RDD PROFILE VIEW
1" = 100' 1H:10V

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

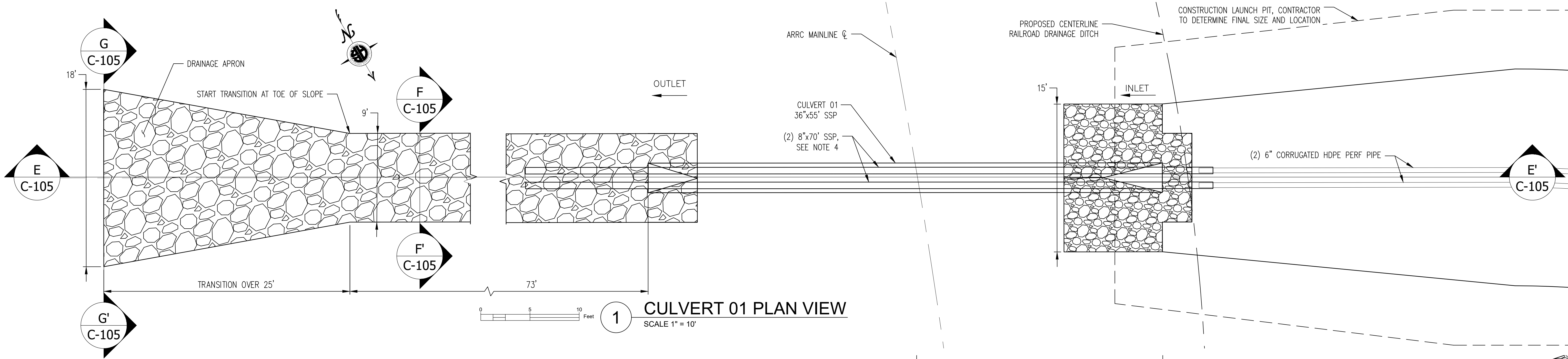
| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
RAILROAD DRAINAGE DITCH
PLAN AND PROFILE VIEW

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-104 | 01 |

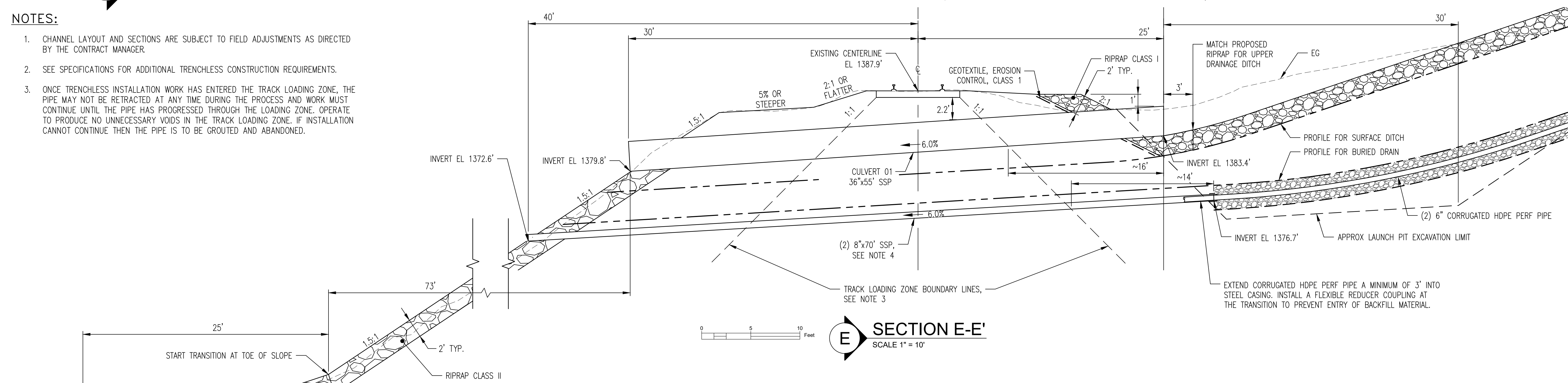



1 CULVERT 01 PLAN VIEW

SCALE 1" = 10'

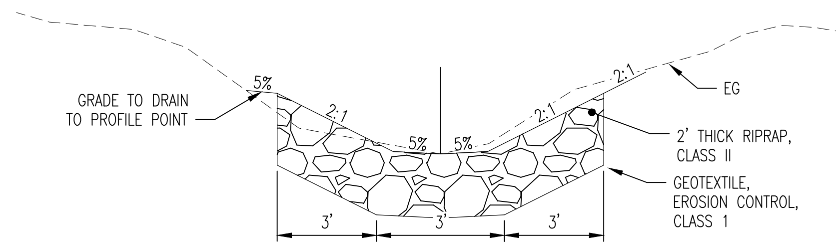
## NOTES:

1. CHANNEL LAYOUT AND SECTIONS ARE SUBJECT TO FIELD ADJUSTMENTS AS DIRECTED BY THE CONTRACT MANAGER.
2. SEE SPECIFICATIONS FOR ADDITIONAL TRENCHLESS CONSTRUCTION REQUIREMENTS.
3. ONCE TRENCHLESS INSTALLATION WORK HAS ENTERED THE TRACK LOADING ZONE, THE PIPE MAY NOT BE RETRACTED AT ANY TIME DURING THE PROCESS AND WORK MUST CONTINUE UNTIL THE PIPE HAS PROGRESSED THROUGH THE LOADING ZONE. OPERATE TO PRODUCE NO UNNECESSARY VOIDS IN THE TRACK LOADING ZONE. IF INSTALLATION CANNOT CONTINUE THEN THE PIPE IS TO BE GROUTED AND ABANDONED.



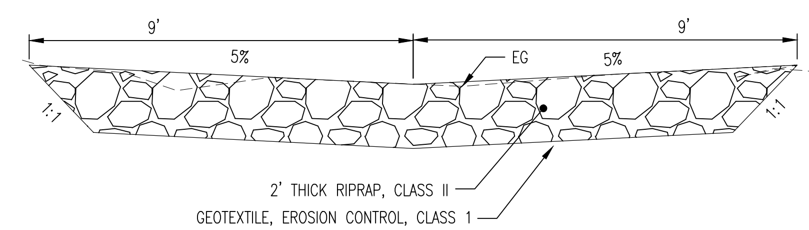

E SECTION E-E'

SCALE 1" = 10'




F SECTION F-F'

NTS, 9' WIDE DRAINAGE APRON




G SECTION G-G'

NTS, 18' WIDE DRAINAGE APRON

## LEGEND:

- ALIGNMENT PROFILES
- POROUS BACKFILL MATERIAL
- RIPRAP, CLASS I
- RIPRAP, CLASS II

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

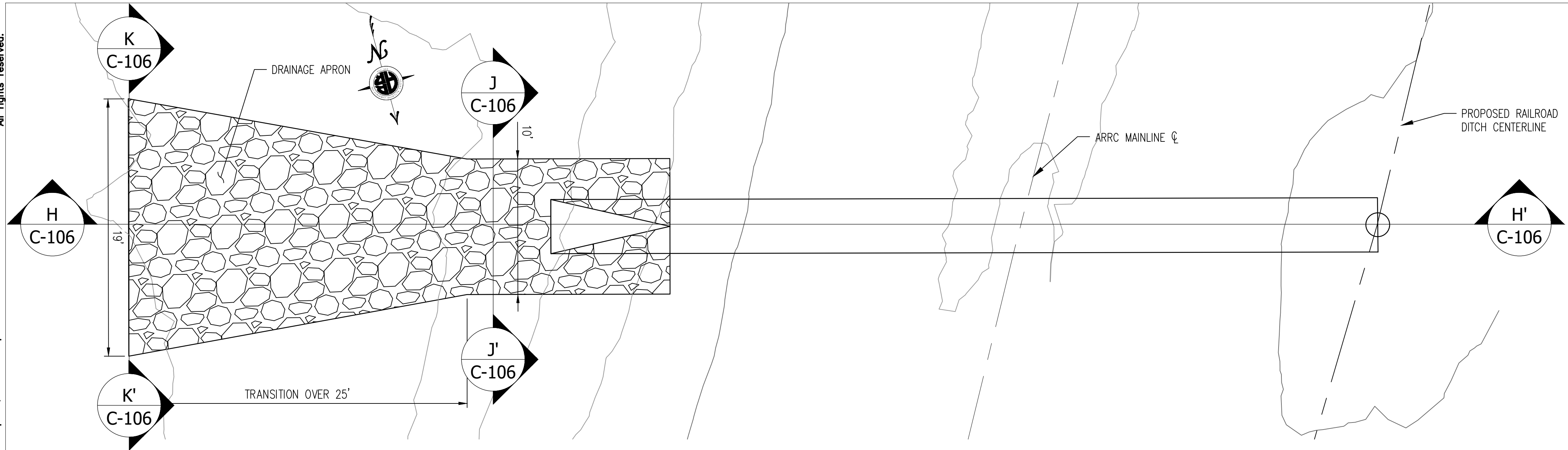
| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | M. MORRIS | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
CULVERT CU01 DETAILS (MP 356.9)

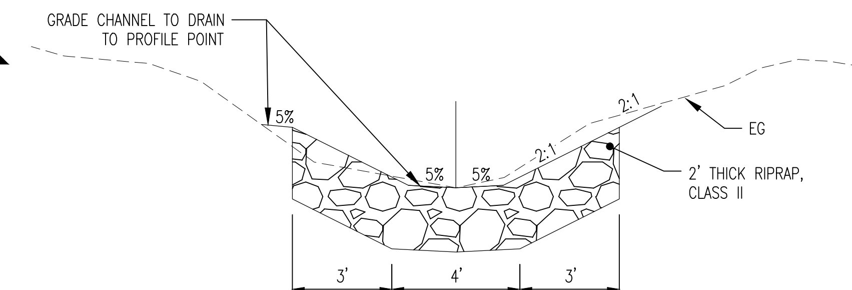
| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-105 | 01 |



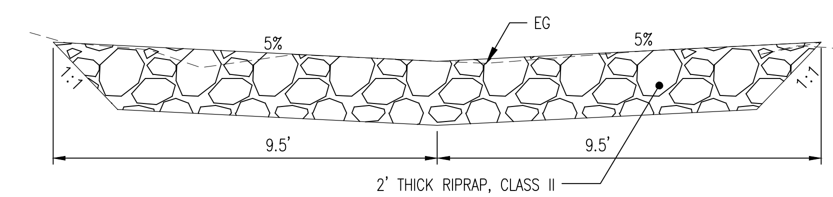

1 CULVERT 02 APRON PLAN VIEW
1" = 10'

## NOTES:

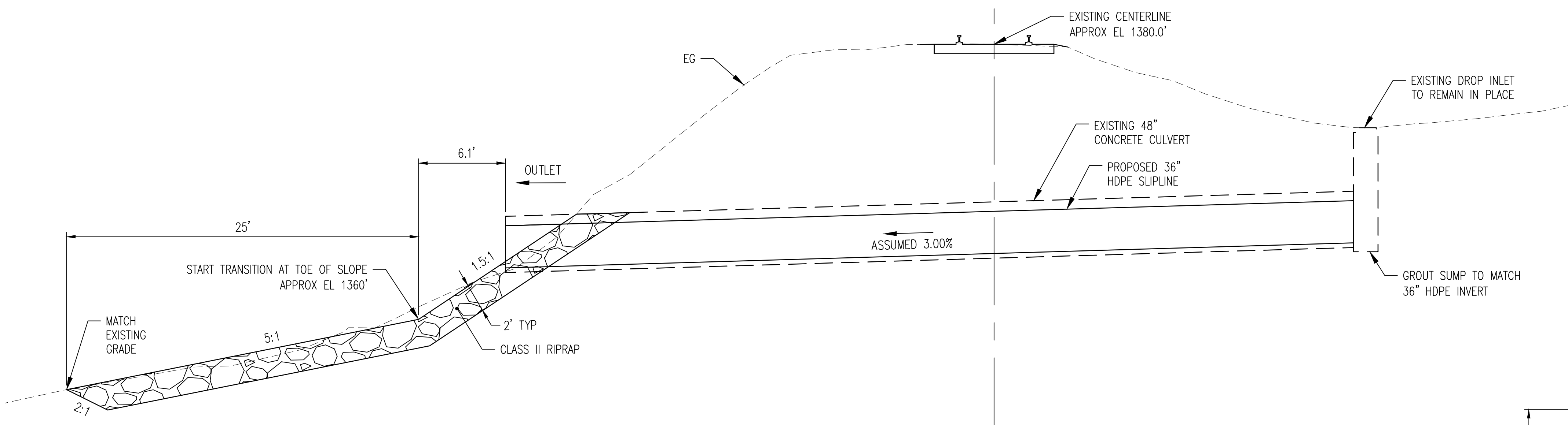
1. CHANNEL LAYOUT AND SECTIONS ARE SUBJECT TO FIELD ADJUSTMENTS AS DIRECTED BY THE CONTRACT MANAGER.
2. SEE SECTION 603 FOR LINER CONSTRUCTION REQUIREMENTS AND HOST PIPE CLEAN AND REPAIR



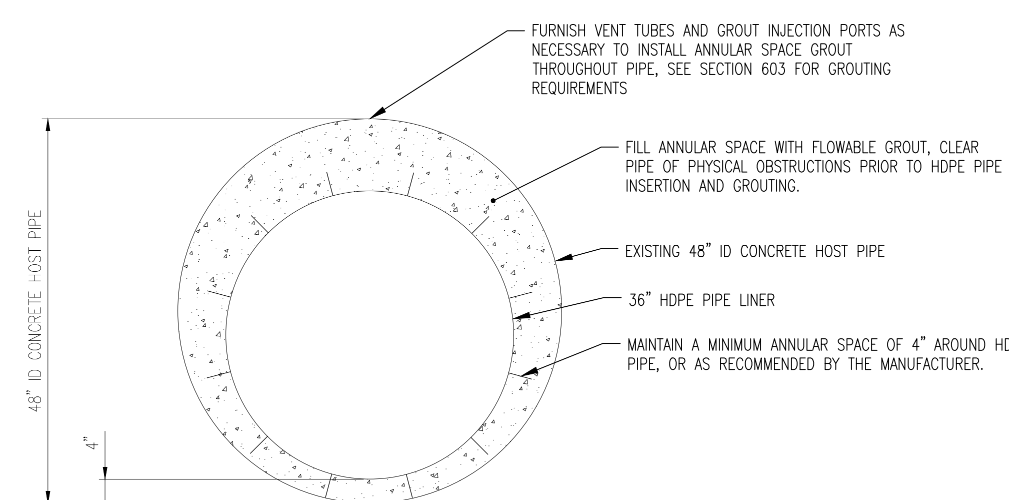

J SECTION J-J'
NTS, 10' DRAINAGE APRON




K SECTION K-K'
NTS, 19' DRAINAGE APRON




H SECTION H-H'
NTS




2 SLIPLINE GROUT DETAIL
1" = 2'
0 1 2 Feet

## LEGEND:

RIPRAP, CLASS II

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | D. ROE | 3/14/2025 |
| DSGN: | D. ROE | 3/14/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
CULVERT CU02 DETAILS (MP 357.1)

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162–C100 | C–106 | 01 |

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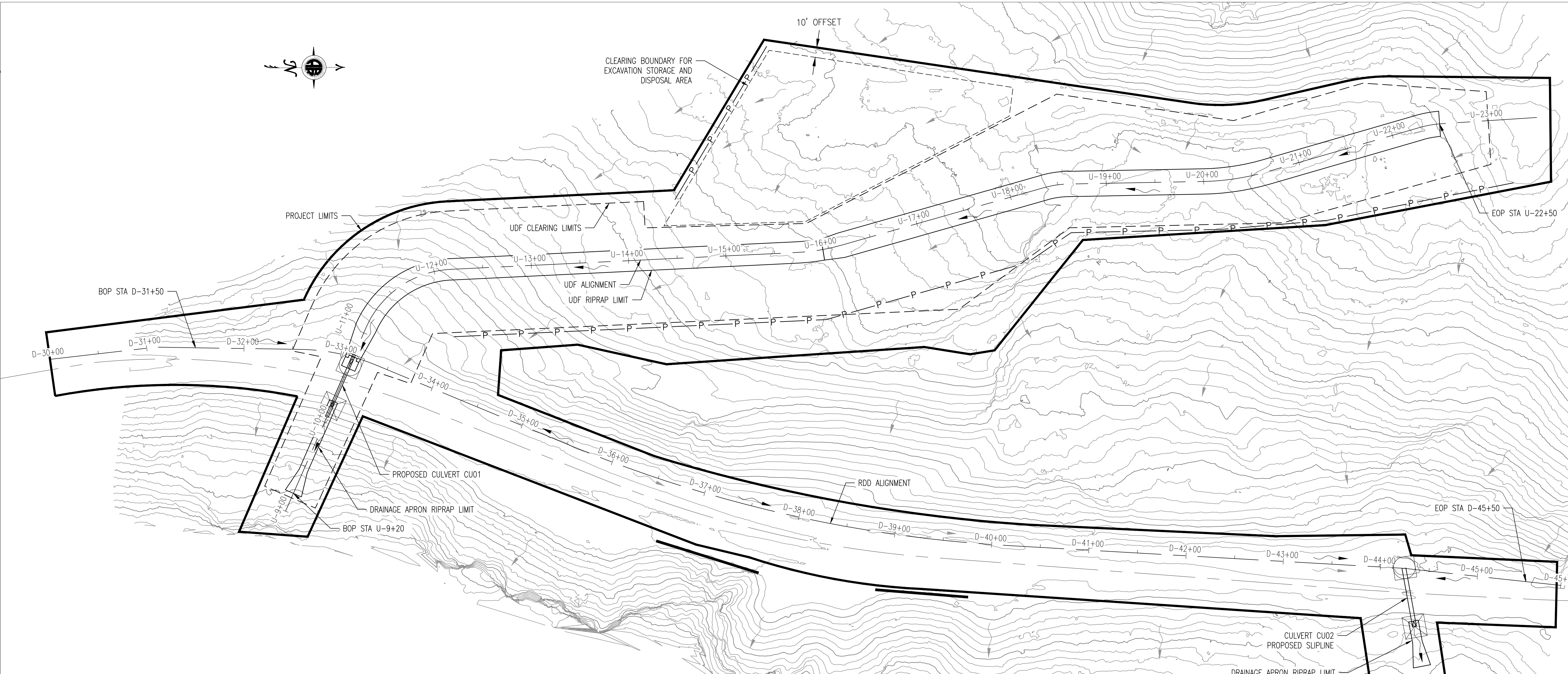



0 50 100 Feet

## MP357.1 EROSION AND SEDIMENT CONTROL PLAN

1" = 100'

## EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THIS ESCP IS A GENERAL PLAN FOR GUIDING THE CONTRACTOR'S SWPPP. THE CONTRACTOR IS EXPECTED TO PROVIDE ADDITIONAL DETAILS AND BMPS BASED ON THE CONTRACTORS ACTUAL SCHEDULE AND CONSTRUCTION METHODS. SEE SECTION 641 FOR ADDITIONAL REQUIREMENTS.
2. CONSTRUCTION ACTIVITY MAY NOT OCCUR OUTSIDE THE PROJECT LIMITS.
3. ALL DISTURBED AREAS MUST MEET FINAL STABILIZATION REQUIREMENTS OF THE SWPPP AND CGP.
   3.1. FINAL STABILIZATION IS SUBSIDIARY TO PAY ITEM 618.0001, SEE SPECIFICATIONS.
4. INLET AND OUTLET PROTECTION IS REQUIRED FOR ALL CULVERTS WHILE GROUND DISTURBING WORK OCCURS.
5. AREAS OF DISTURBANCE, TEMPORARY STABILIZATION, AND PERMANENT STABILIZATION, WILL BE MARKED AS WORK PROCEEDS AND ADDED TO LEGEND.
6. TEMPORARY BMPS REQUIRED BY THIS ESCP WILL NOT BE MEASURED FOR PAYMENT AND ARE SUBSIDIARY TO PAY ITEM 641.0003
7. TEMPORARY BMPS REQUIRED AT ANY WETLAND OR TEMPORARY CROSSINGS ALONG ACCESS ROAD.

## LEGEND:

—P— SILT FENCE PERIMETER CONTROL
CULVERT INLET PROTECTION
CULVERT OUTLET PROTECTION
EXISTING FLOW DIRECTION
PROPOSED FLOW DIRECTION

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

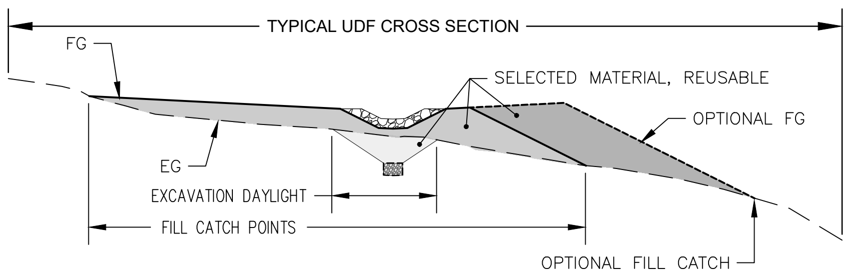
| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

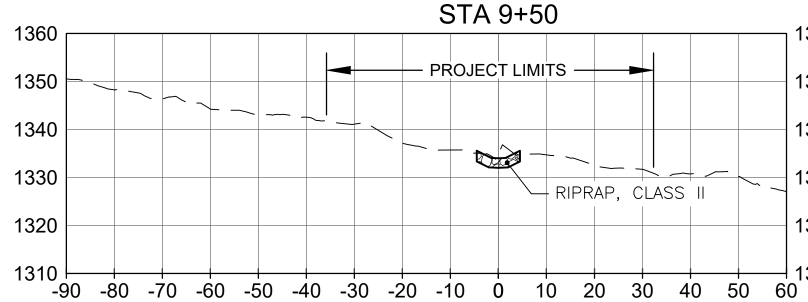
Michael Baker INTERNATIONAL

ARRC MP 357.1
PROPOSED FEATURES
EROSION AND SEDIMENT CONTROL PLAN

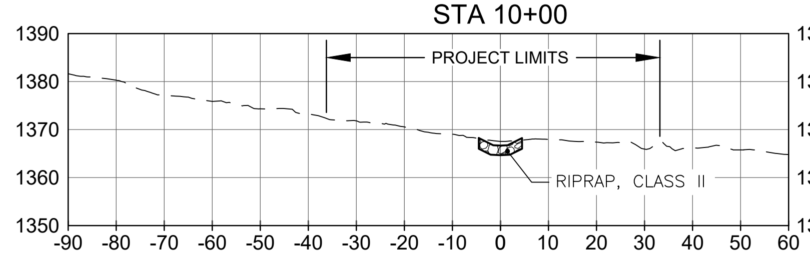
| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-107 | 01 |



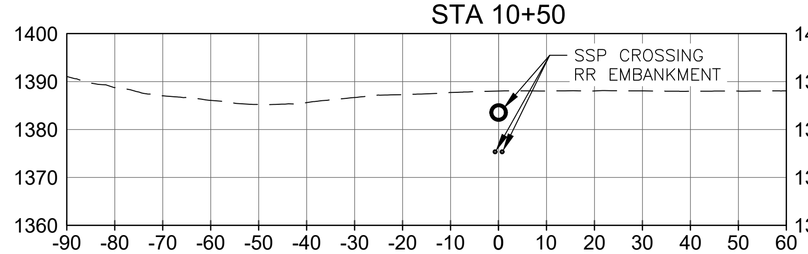

STA 9+50



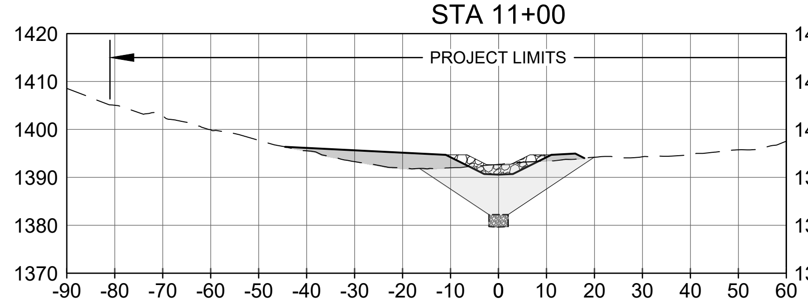

STA 10+00



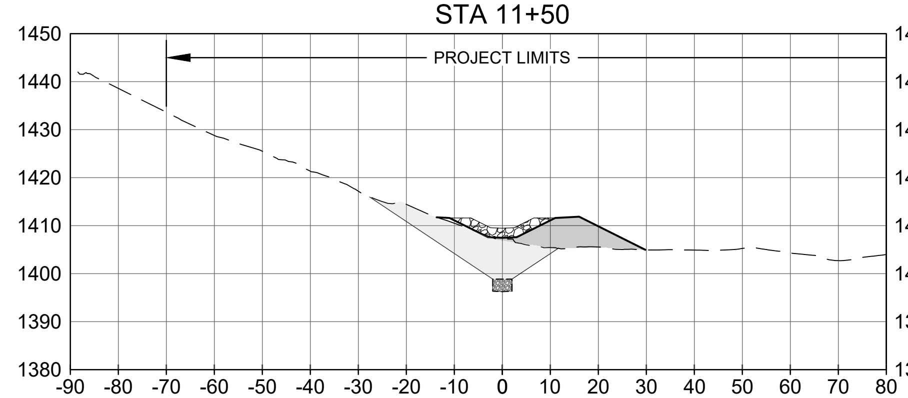

STA 10+50



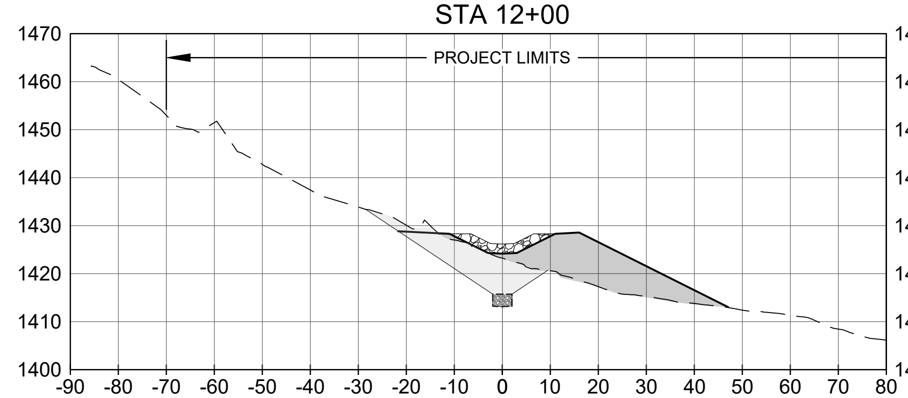

STA 11+00



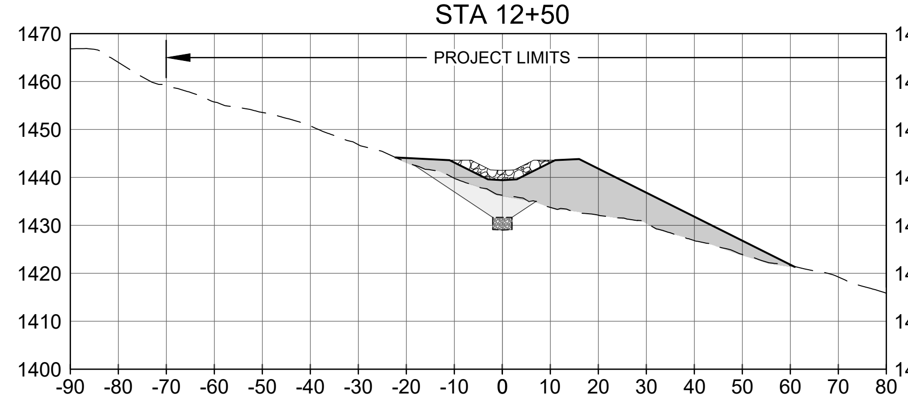

STA 11+50



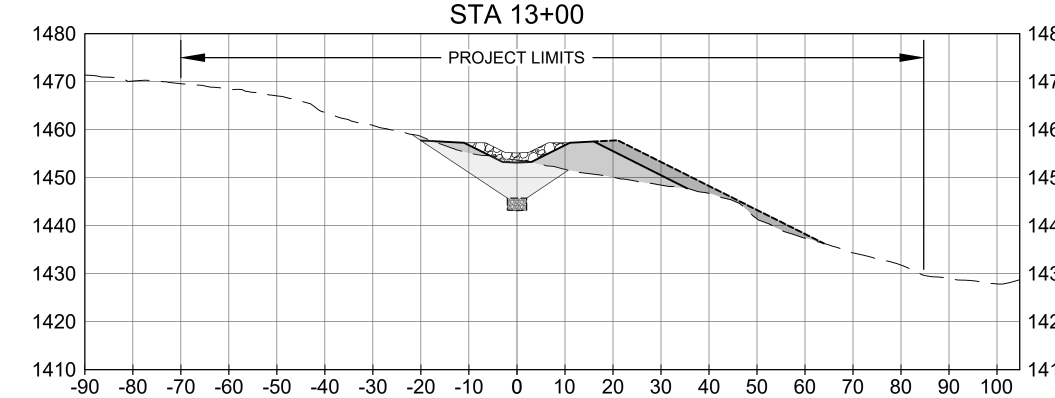

STA 12+00



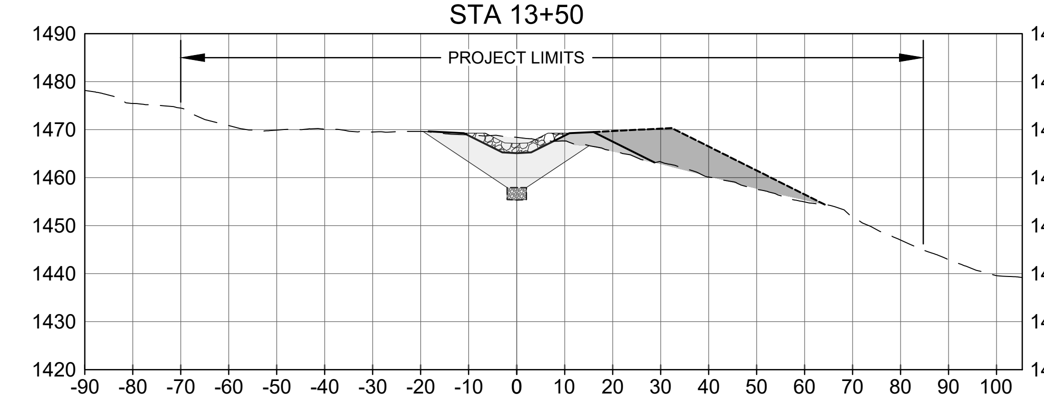

STA 12+50



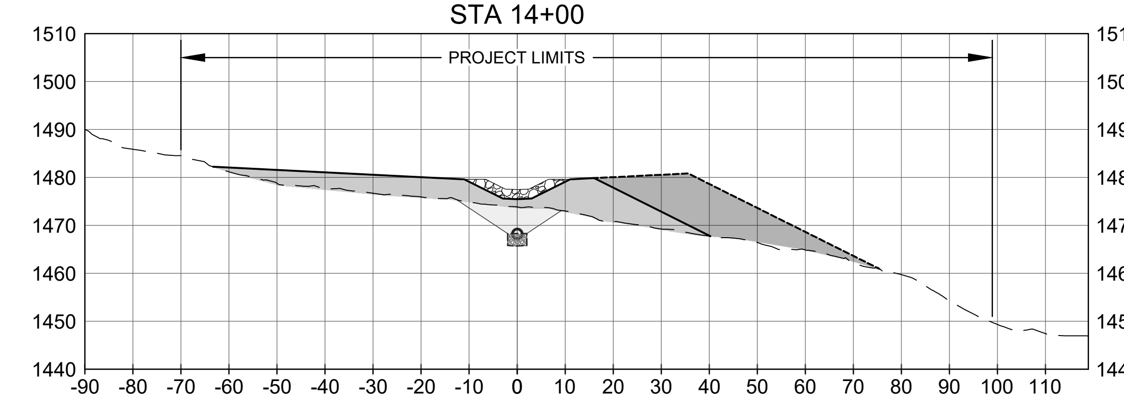

STA 13+00




STA 13+50




STA 14+00




0 20 40 Feet

**UPPER DRAINAGE FEATURE CROSS SECTIONS 1 OF 5**

1"=40', 1V:1H

LEGEND:

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APP'D |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

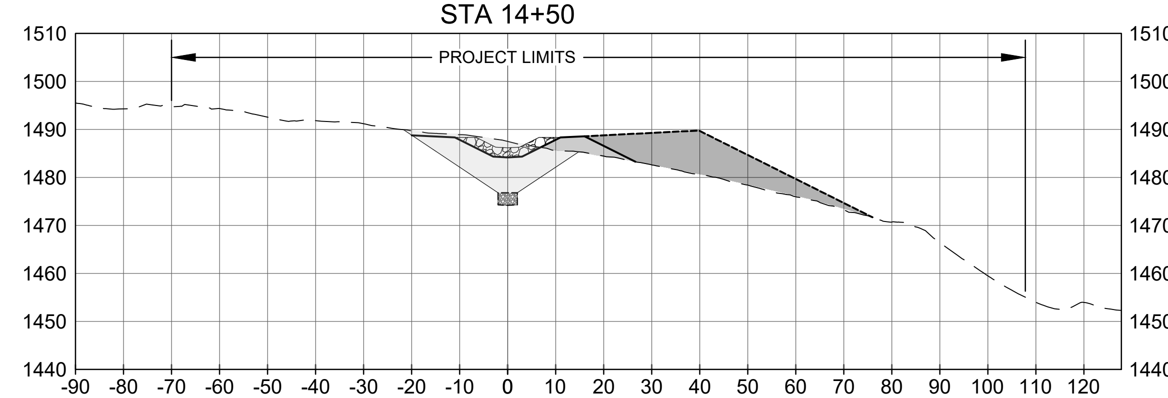
ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
UPPER DRAINAGE FEATURE
CROSS SECTIONS 1 OF 5

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-108 | 01 |

STA 14+50

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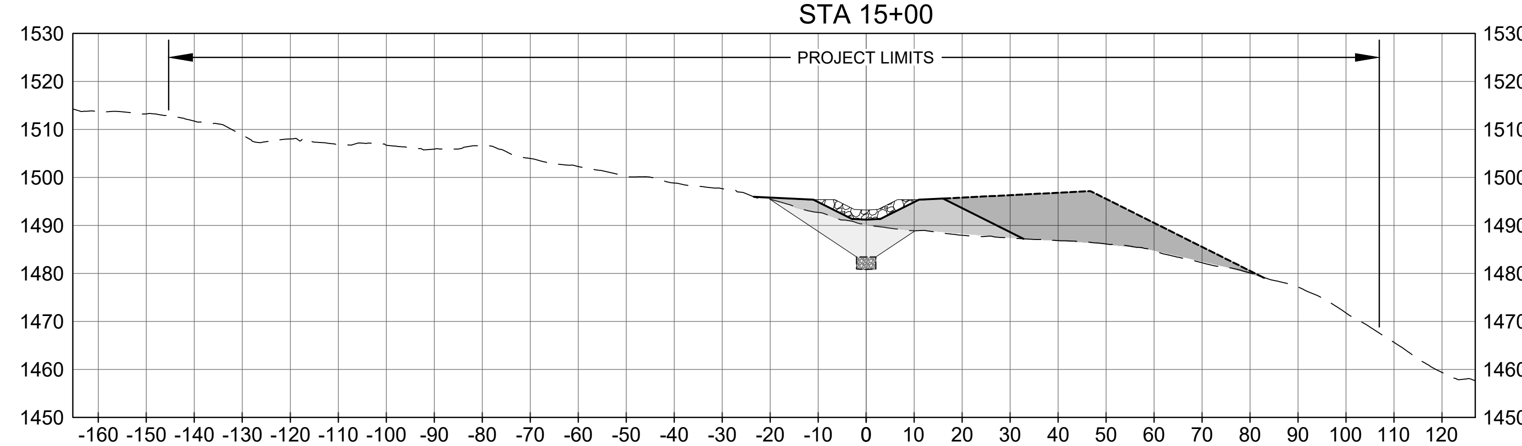
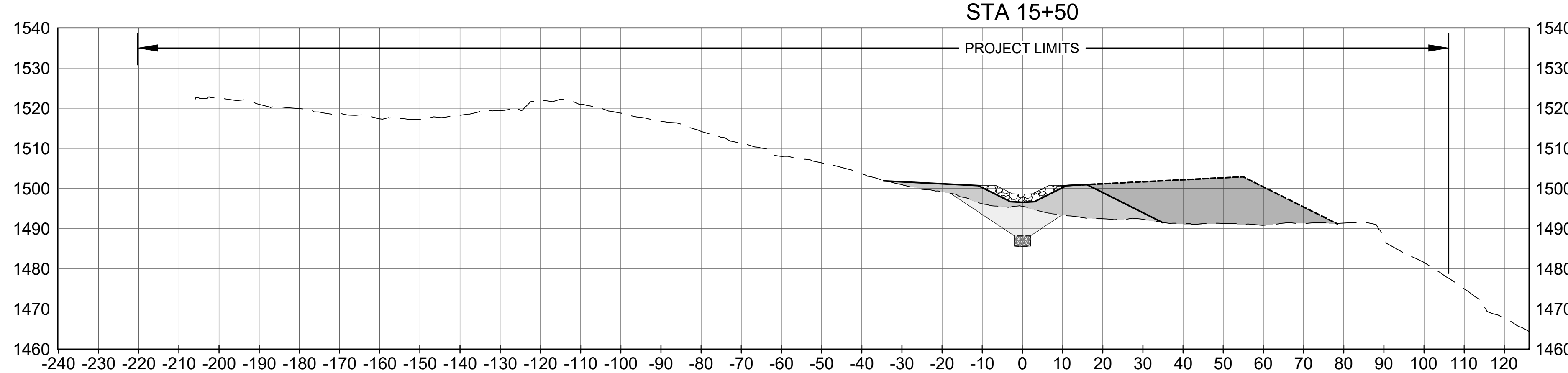



STA 15+50




0 20 40 Feet

## UPPER DRAINAGE FEATURE CROSS SECTIONS 2 OF 5

1"=40', 1V:1H

LEGEND:

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

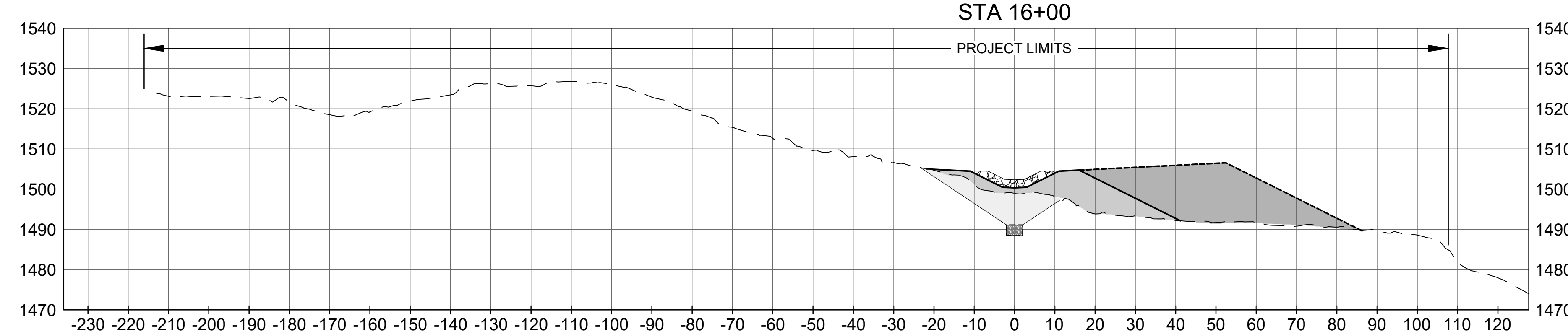
ALASKA RAILROAD

Michael Baker INTERNATIONAL

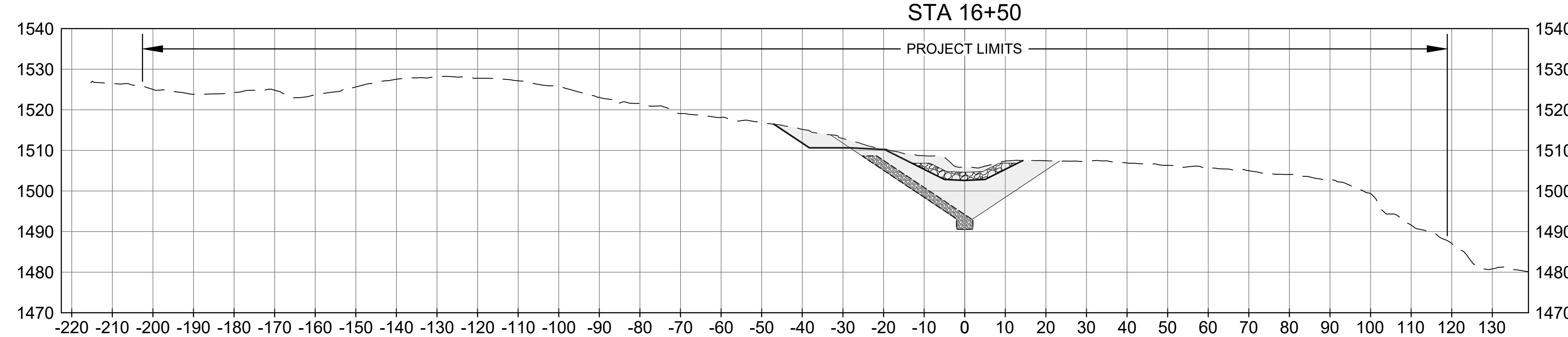
ARRC MP 357.1
UPPER DRAINAGE FEATURE
CROSS SECTIONS 2 OF 5

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-109 | 01 |

STA 16+00




STA 16+50

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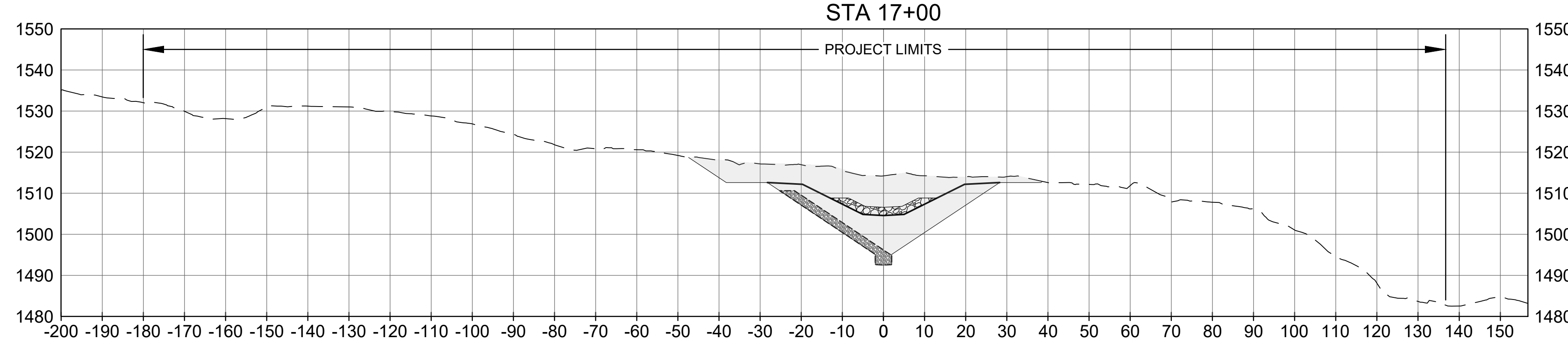



0 20 40 Feet

## UPPER DRAINAGE FEATURE CROSS SECTIONS 3 OF 5

1"=40', 1V:1H

LEGEND:

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

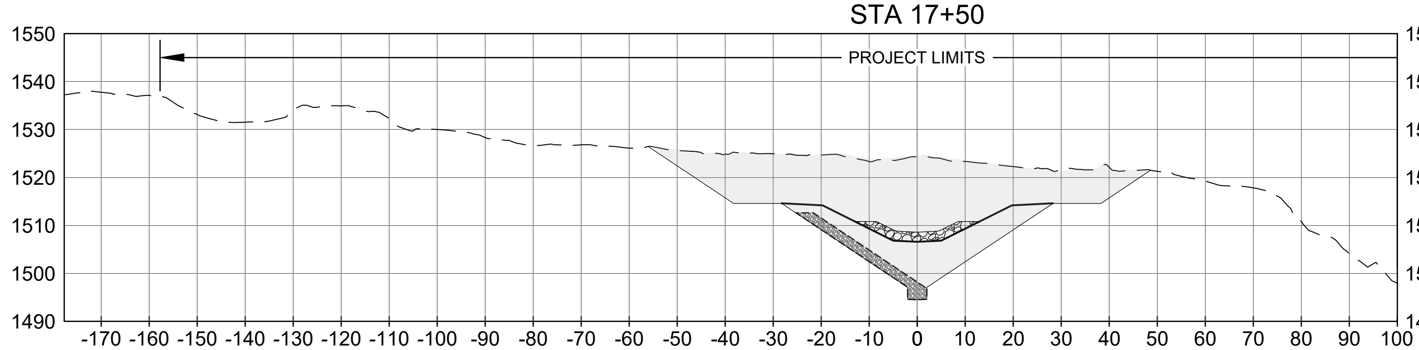
ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
UPPER DRAINAGE FEATURE
CROSS SECTIONS 3 OF 5

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-110 | 01 |

STA 17+50

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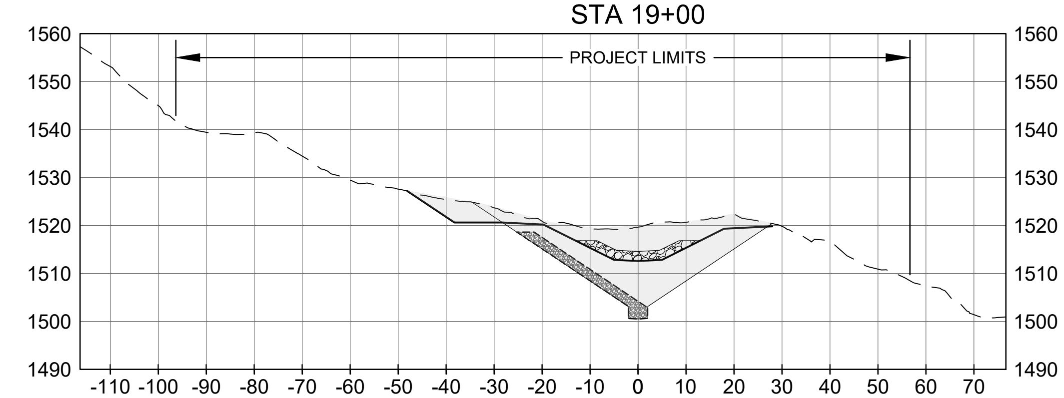


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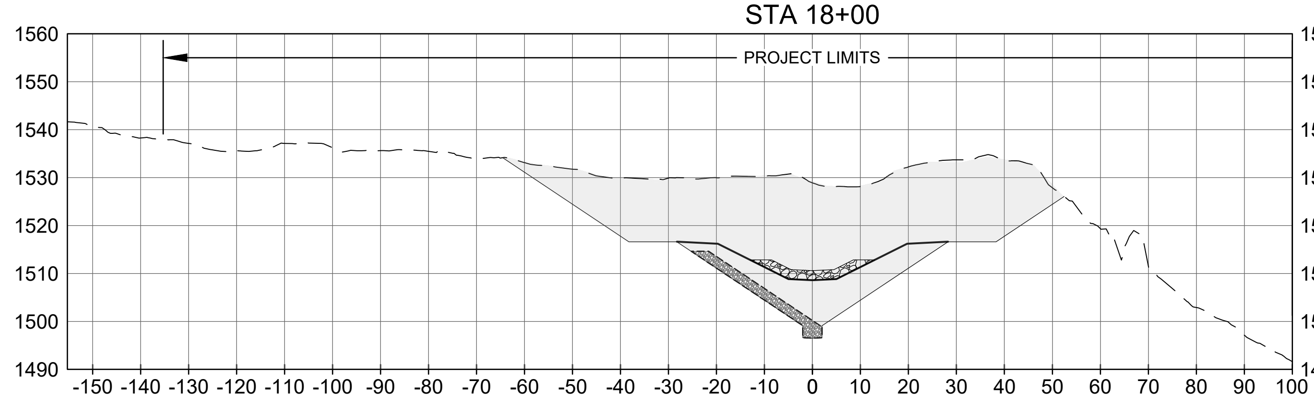


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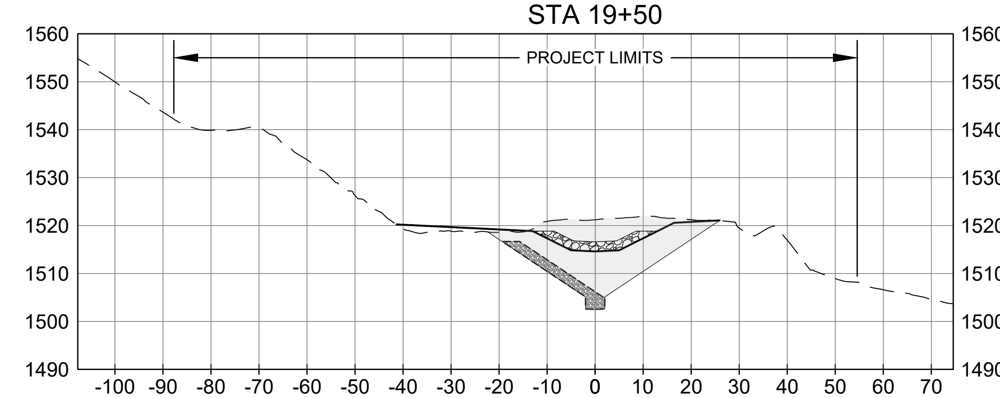


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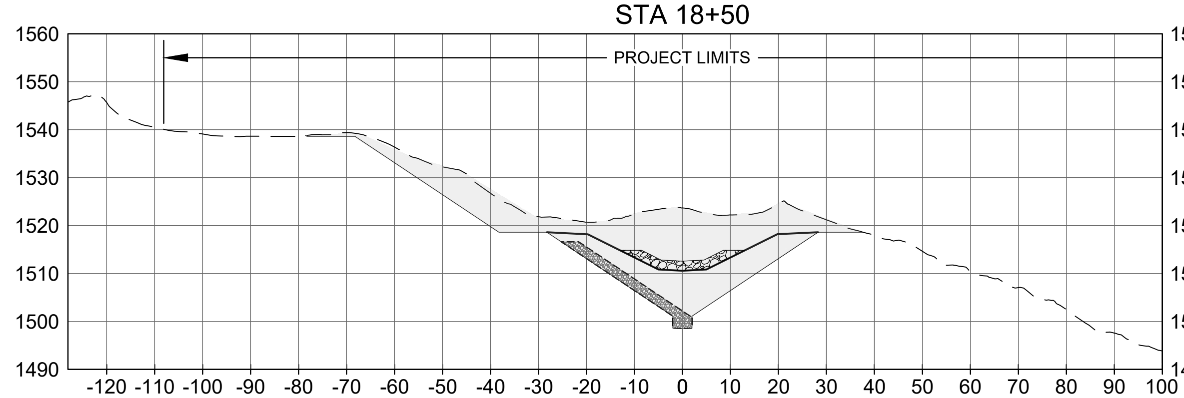


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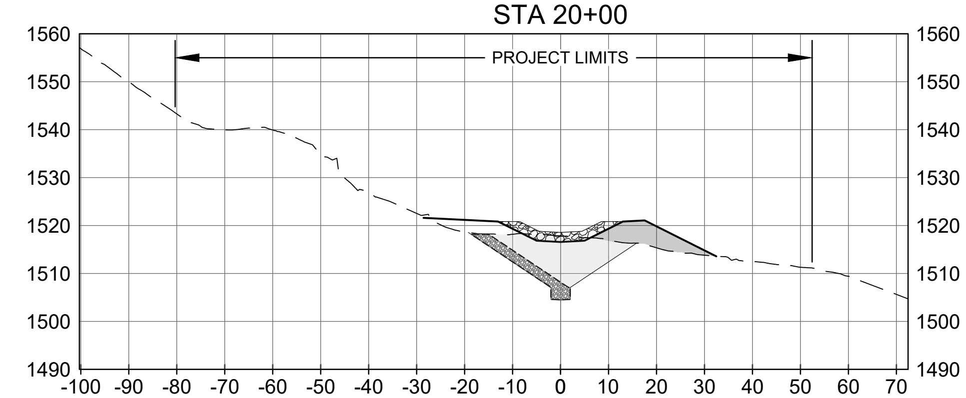



0 20 40 Feet

## UPPER DRAINAGE FEATURE CROSS SECTIONS 4 OF 5

1"=40', 1V:1H

LEGEND:

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|

IFB PLANS

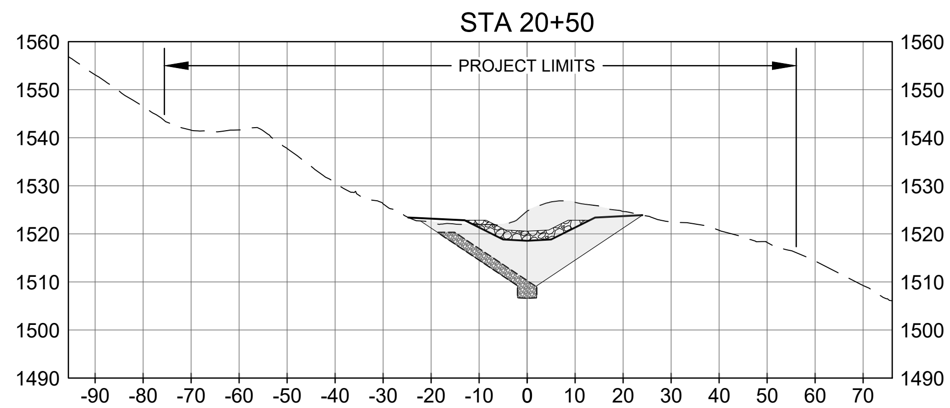
| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

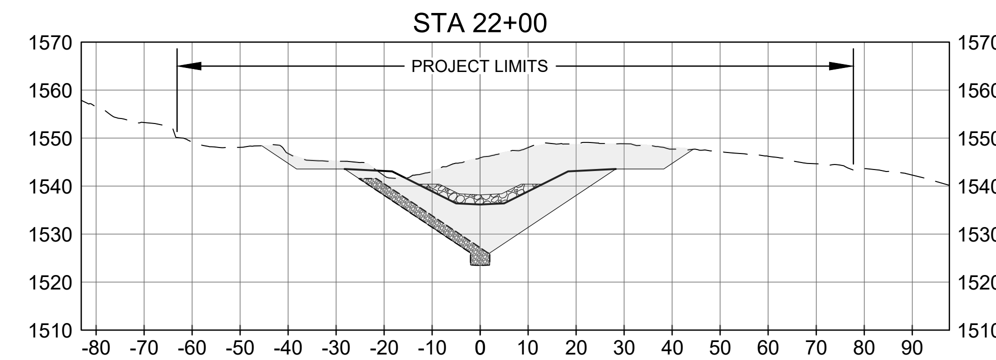
ALASKA RAILROAD

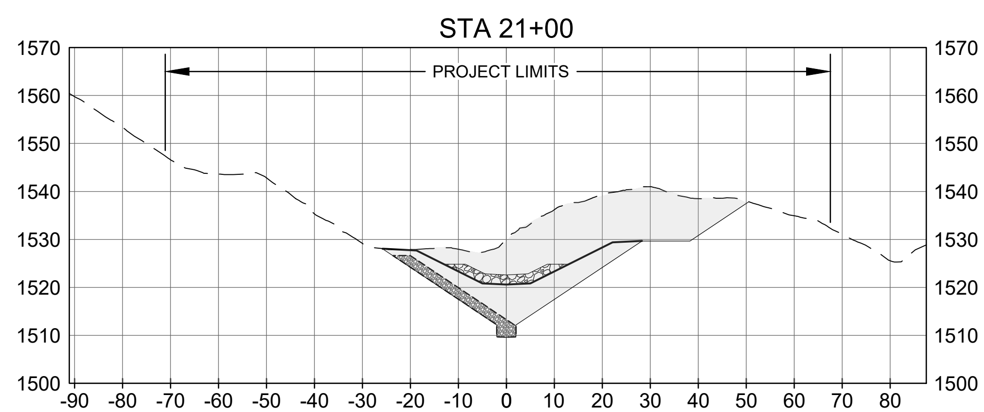
Michael Baker INTERNATIONAL

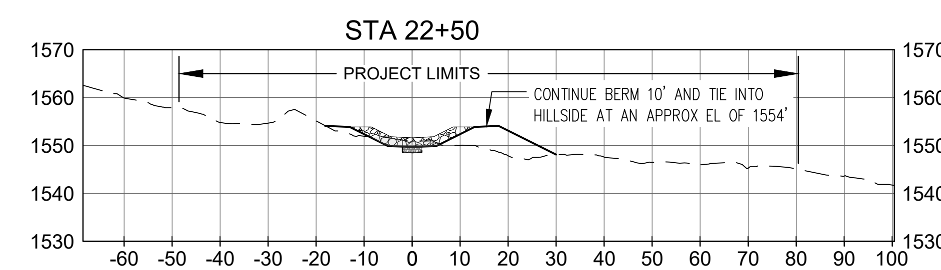
ARRC MP 357.1
UPPER DRAINAGE FEATURE
CROSS SECTIONS 4 OF 5

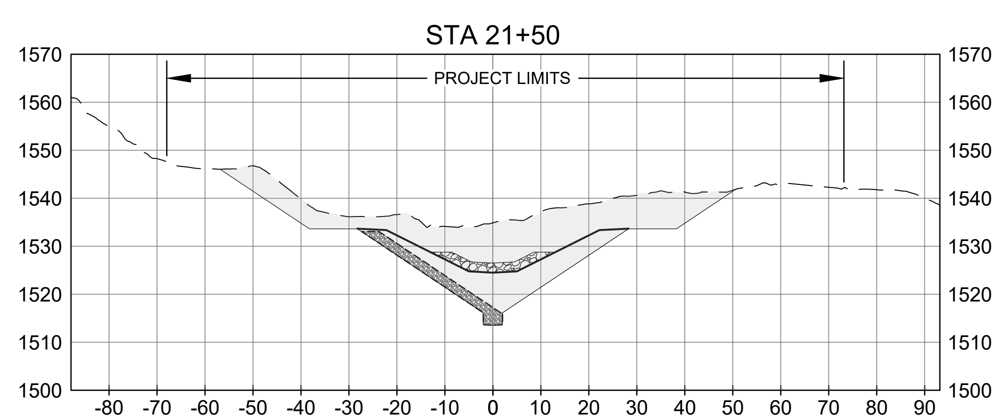
| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-111 | 01 |




0 20 40 Feet

## UPPER DRAINAGE FEATURE CROSS SECTIONS 1 OF 5

1"=40', 1V:1H

**LEGEND:**

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

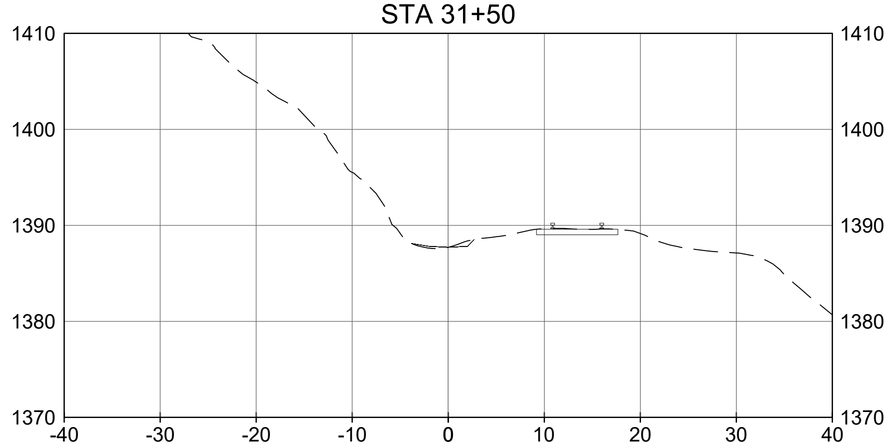
ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
UPPER DRAINAGE FEATURE
CROSS SECTIONS 5 OF 5

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-112 | 01 |

STA 31+50



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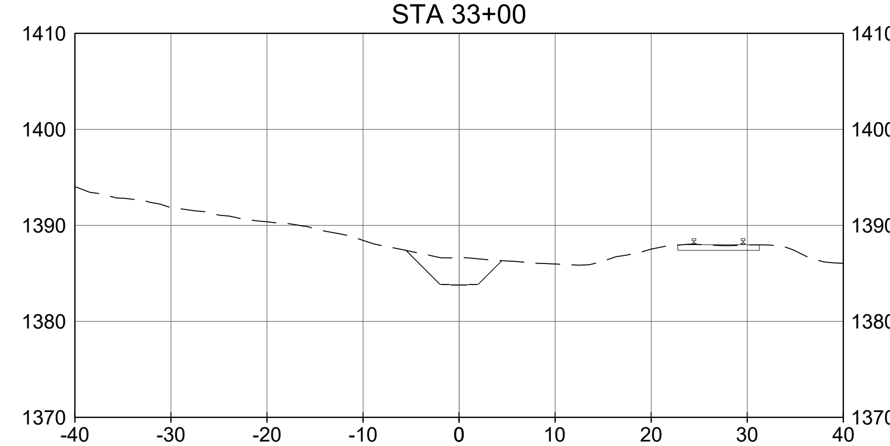
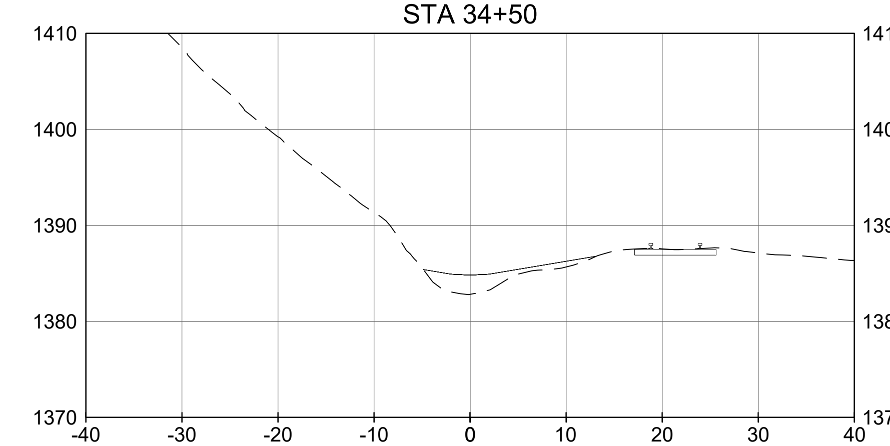


STA 34+50



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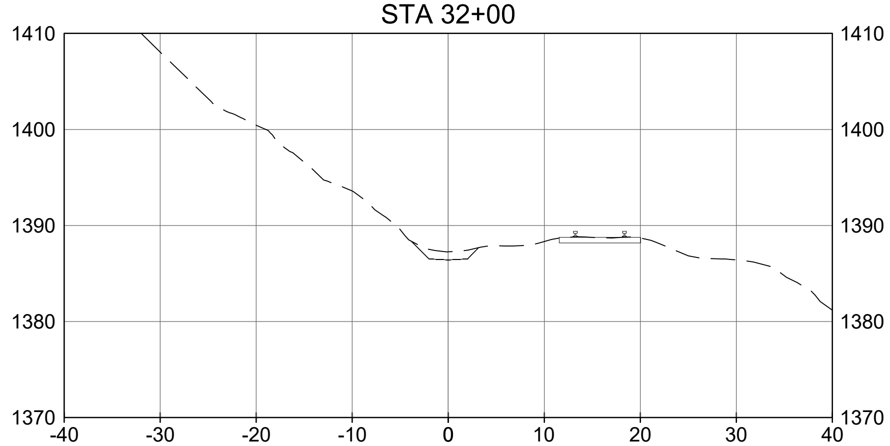

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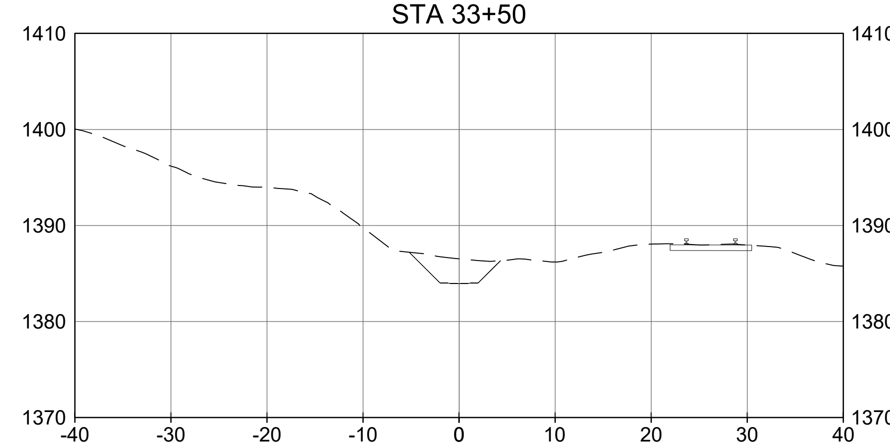
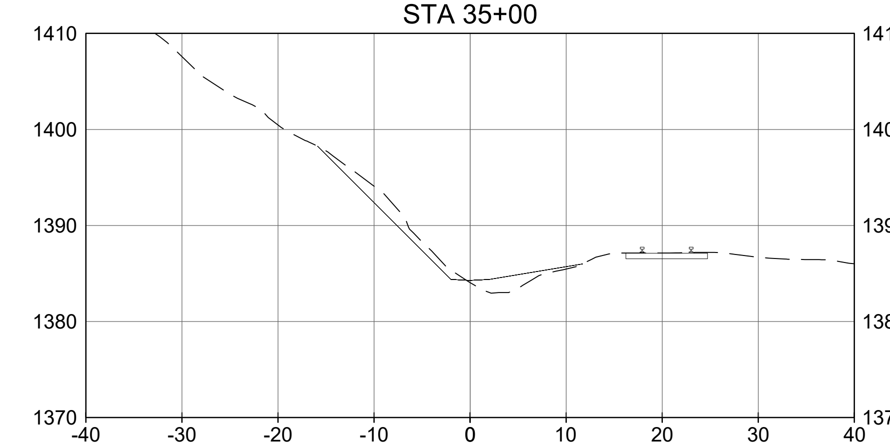


STA 35+00



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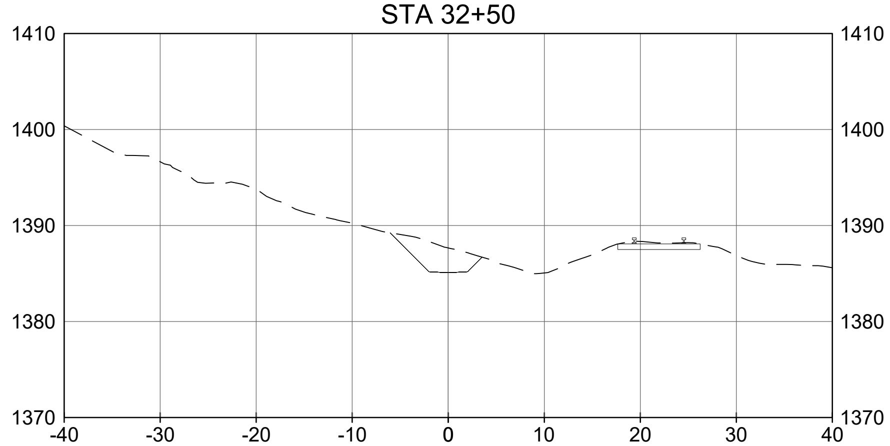
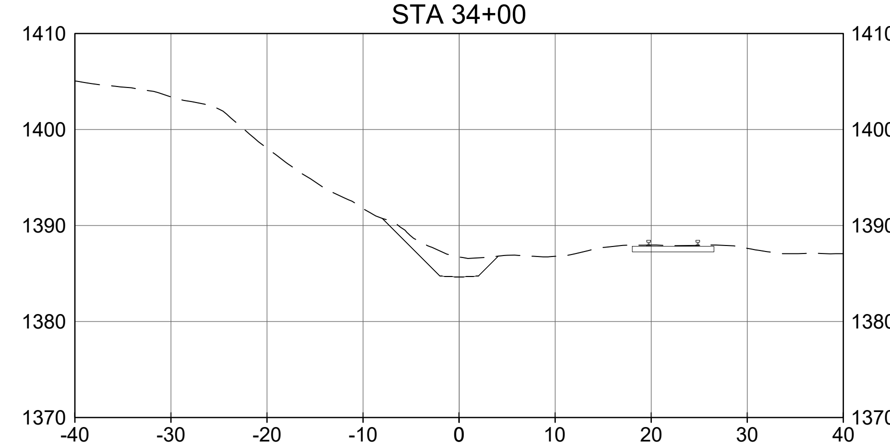
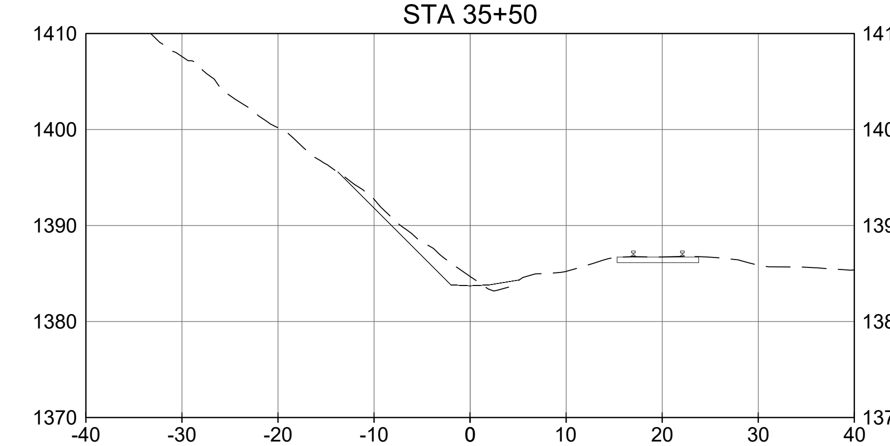


STA 34+00



STA 35+50



0 10 20 Feet

**RAILROAD DRAINAGE DITCH CROSS SECTIONS 1 OF 4**

1"=20', 1V:1H

LEGEND:

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

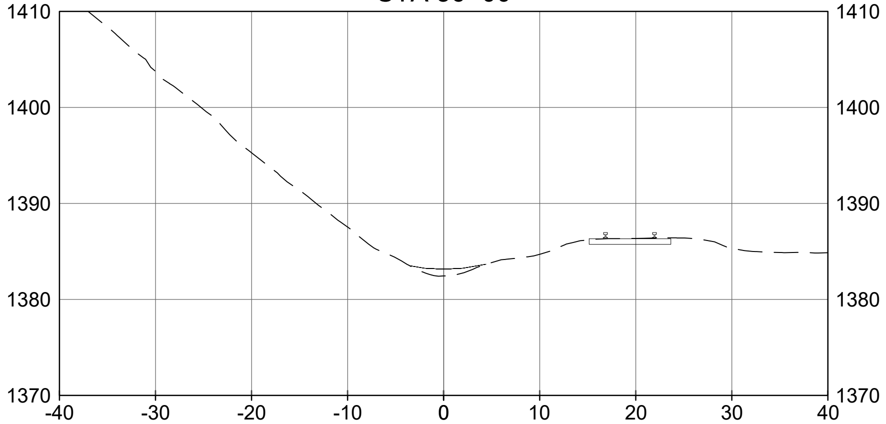
ALASKA RAILROAD

Michael Baker INTERNATIONAL

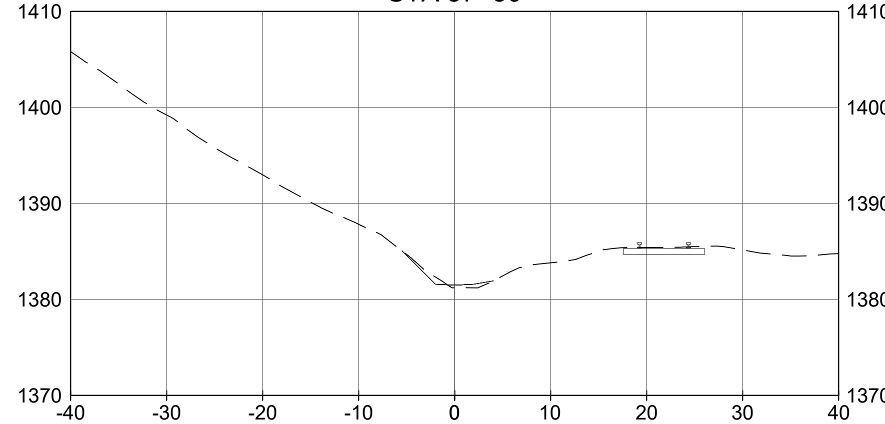
ARRC MP 357.1
RAILROAD DRAINAGE DITCH
CROSS SECTIONS 1 OF 4

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-113 | 01 |

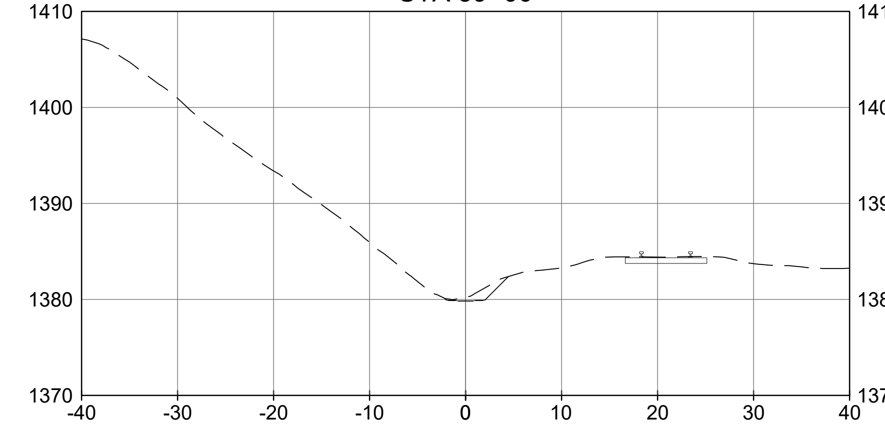
STA 36+00



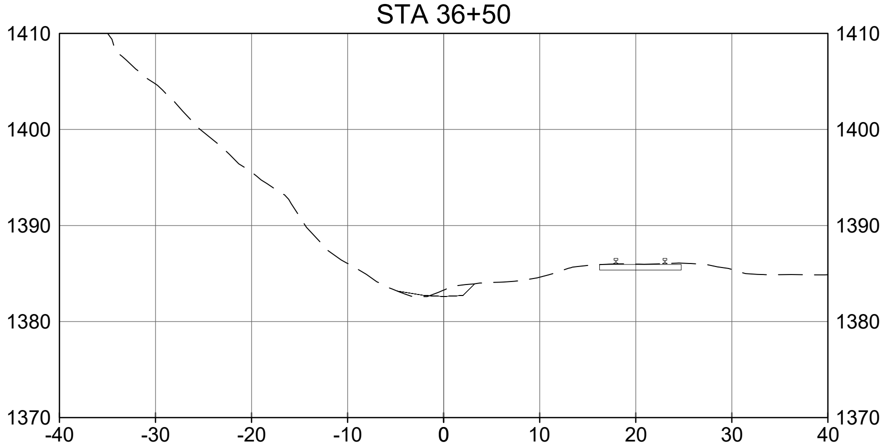

STA 37+50



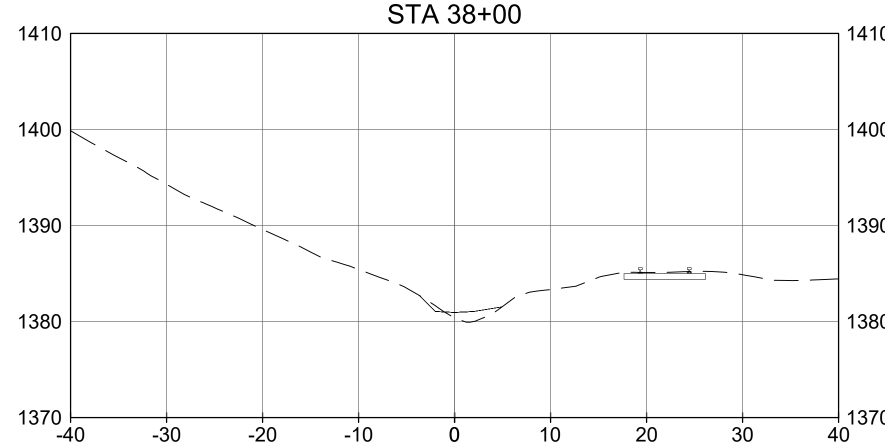

STA 39+00



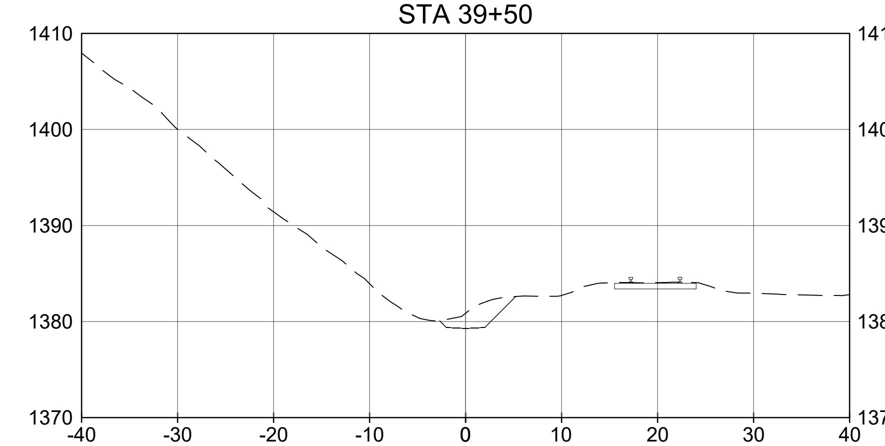

STA 36+50




STA 38+00




STA 39+50

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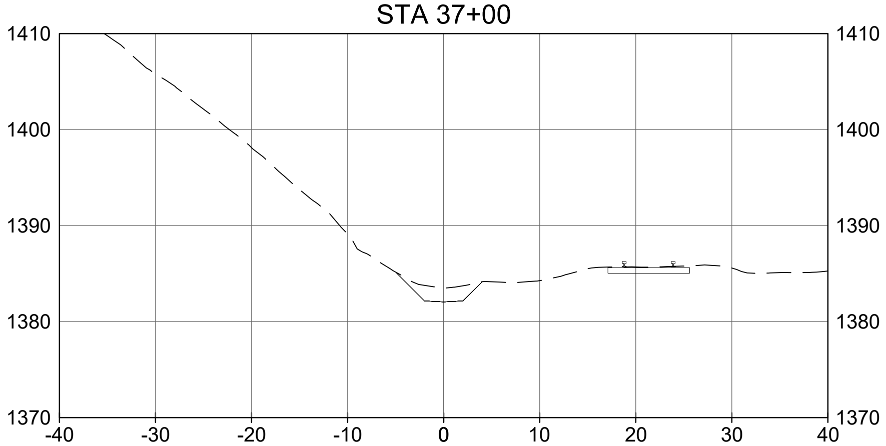


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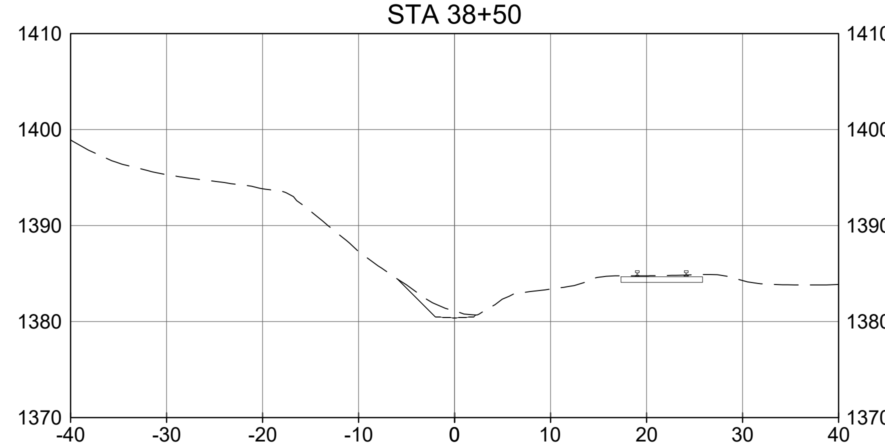


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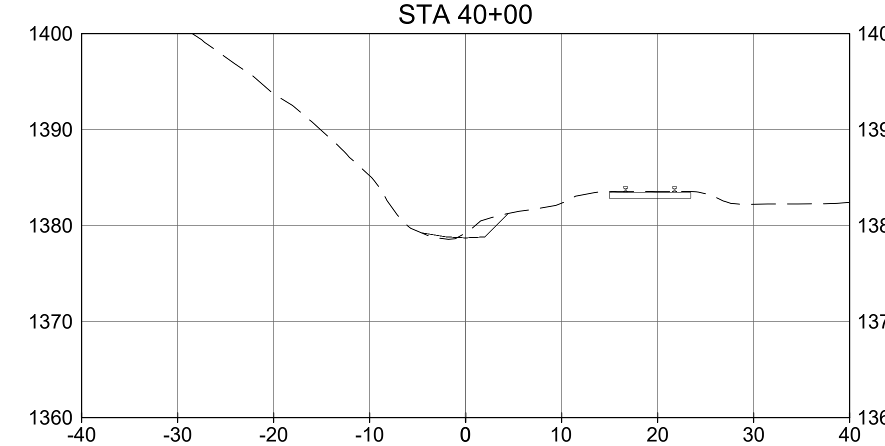



0 10 20 Feet

## RAILROAD DRAINAGE DITCH CROSS SECTIONS 2 OF 4

1"=20', 1V:1H

**LEGEND:**

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

**IFB PLANS**

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

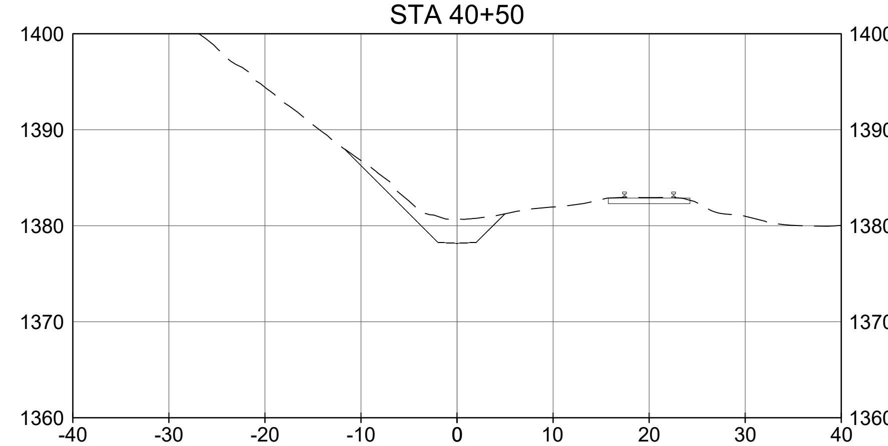
ALASKA RAILROAD

Michael Baker INTERNATIONAL

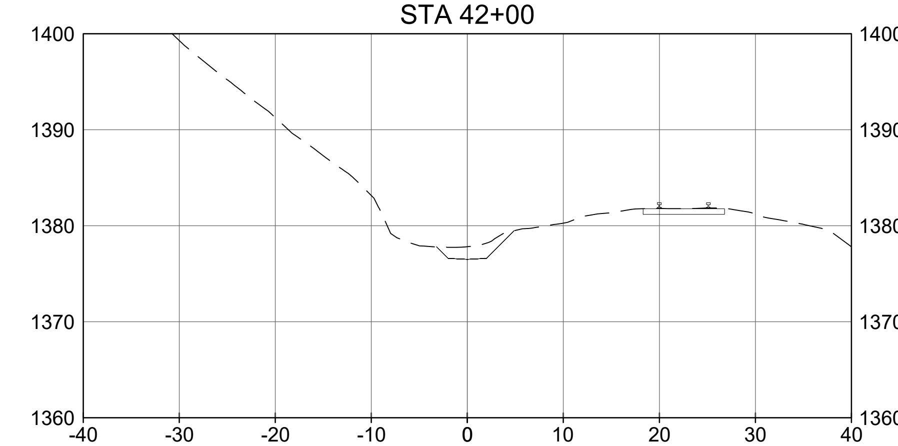
ARRC MP 357.1
RAILROAD DRAINAGE DITCH
CROSS SECTIONS 2 OF 4

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-114 | 01 |

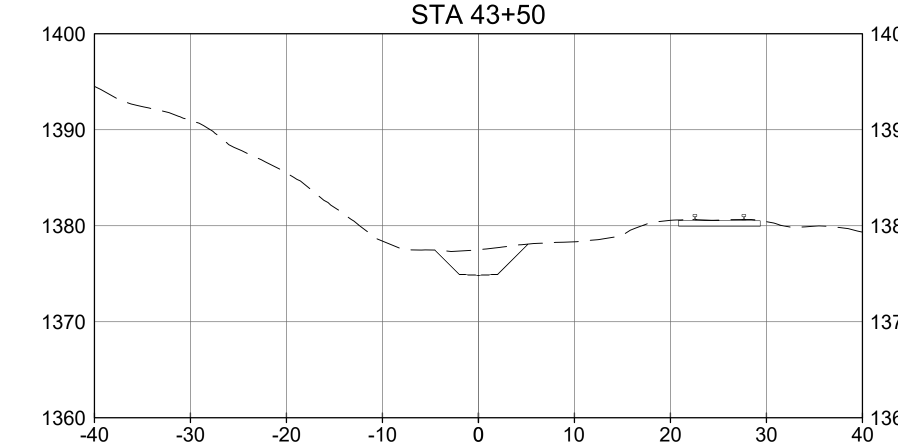
STA 40+50



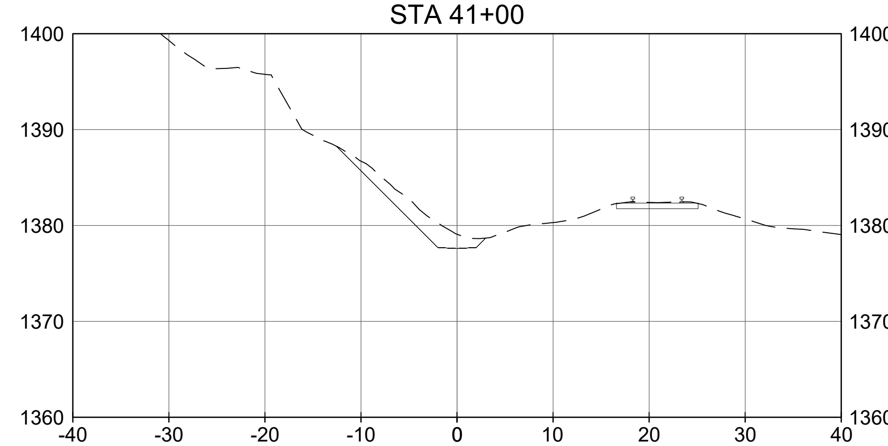

STA 42+00



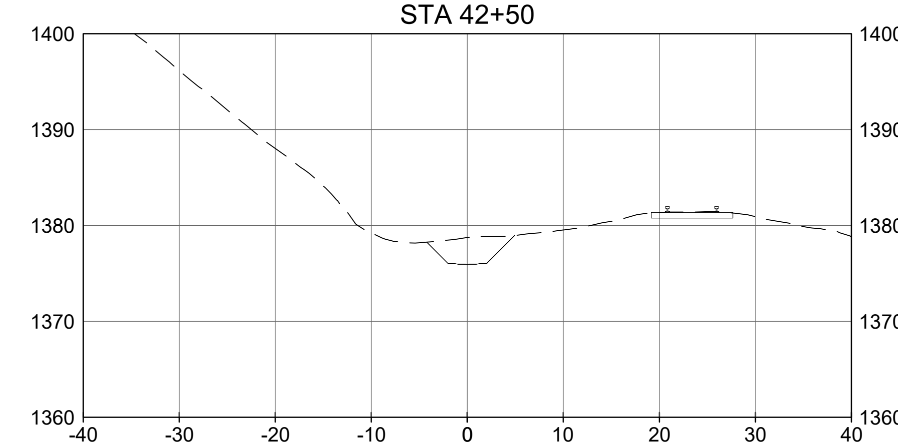

STA 43+50



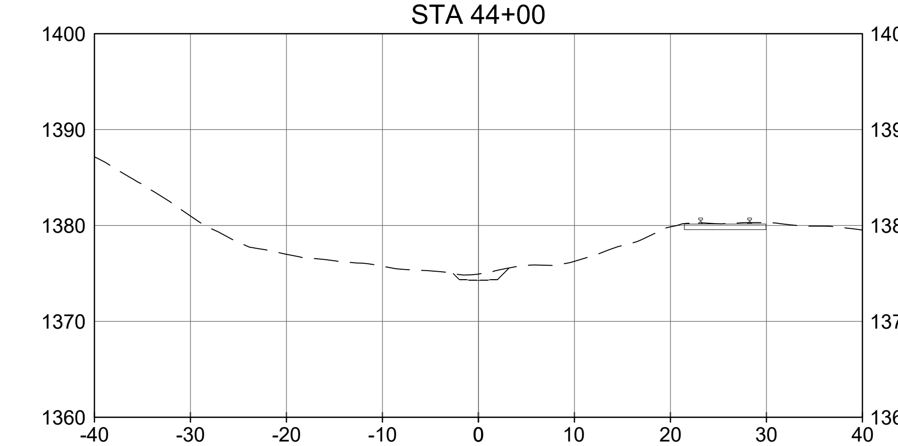

STA 41+00



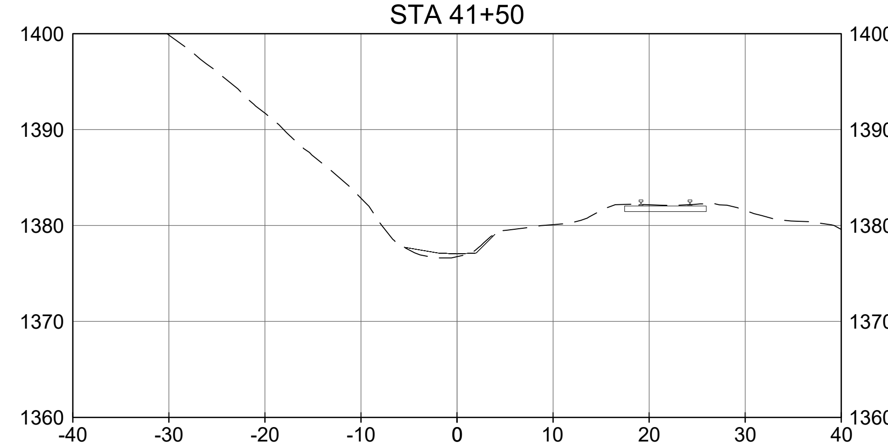

STA 42+50




STA 44+00




STA 41+50

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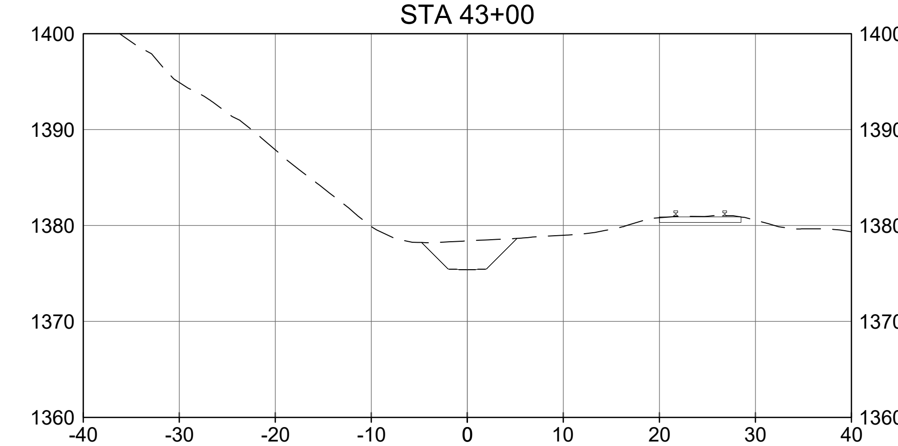


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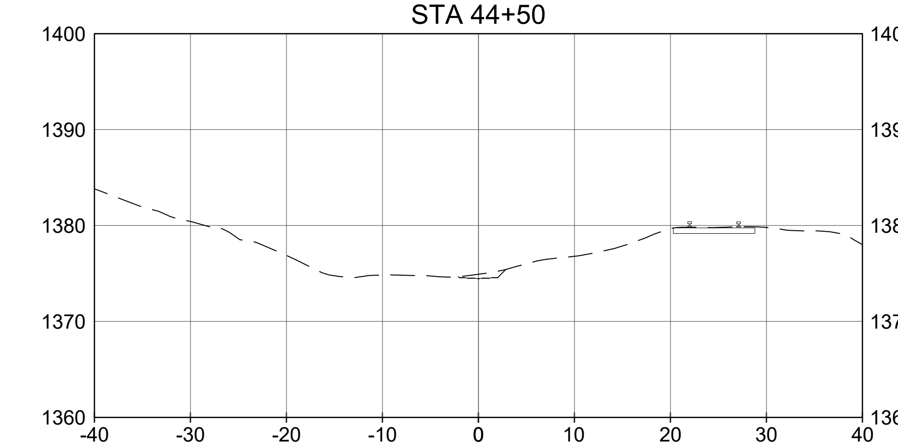



0 10 20 Feet

## RAILROAD DRAINAGE DITCH CROSS SECTIONS 3 OF 4

1"=20', 1V:1H

## LEGEND:

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|
| | | | | | |

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

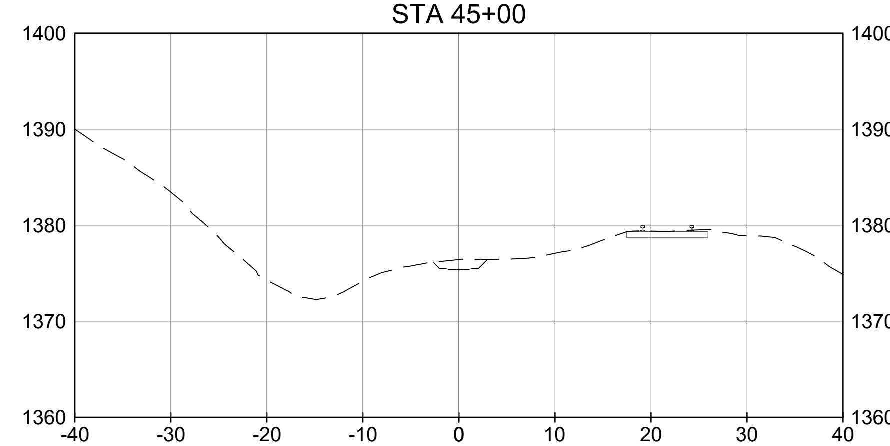
ALASKA RAILROAD

Michael Baker INTERNATIONAL

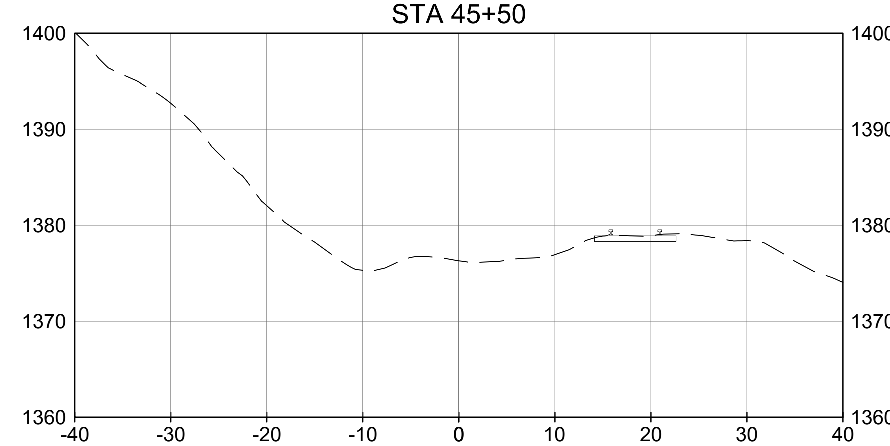
ARRC MP 357.1
RAILROAD DRAINAGE DITCH
CROSS SECTIONS 3 OF 4

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-115 | 01 |

STA 45+00




STA 45+50




0 10 20 Feet

## RAILROAD DRAINAGE DITCH CROSS SECTIONS 4 OF 4

1"=20', 1V:1H

LEGEND:

- EXCAVATION
- SELECTED MATERIAL, REUSABLE
- OPTIONAL FILL DISPOSAL
- POROUS BACKFILL MATERIAL
- EXISTING GROUND SURFACE
- RIPRAP, CLASS I

| NO. | DATE | REVISION | BY | CHK | APPD |
|---|---|---|---|---|---|

IFB PLANS

| ENGINEERING RECORD | | DATE |
|---|---|---|
| DRN: | M. MORRIS | 8/29/2025 |
| DSGN: | R. HEBNES | 8/29/2025 |
| CHK: | G. YAGER | 8/29/2025 |
| APP: | | |
| APP: | | |
| SCALE: | VARIES | |

ALASKA RAILROAD

Michael Baker INTERNATIONAL

ARRC MP 357.1
RAILROAD DRAINAGE DITCH
CROSS SECTIONS 4 OF 4

| TASK ORDER | DOCUMENT NUMBER | SHEET | REVISION |
|---|---|---|---|
| DELIVERABLE NUMBER | 205162-C100 | C-116 | 01 |