



30% DESIGN
01/25/2022

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

BR. 127.5 REPLACEMENT

LATTITUDE: 61.3177°, LONGITUDE: -149.6191°

DRAWING INDEX

- | | |
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| 2. LEGEND | 10. CONSTRUCTION PHASING PLAN |
| 3. RAIL TYPICAL SECTIONS | 11. FOUNDATION PLAN |
| 4. TRACK PLAN AND PROFILE STA 66+00 TO 80+00 | 12. BRIDGE TYPICAL SECTIONS (1 OF 2) |
| 5. TRACK PLAN AND PROFILE STA 80+00 TO 94+00 | 13. BRIDGE TYPICAL SECTIONS (2 OF 2) |
| 6. TRACK PLAN AND PROFILE STA 94+00 TO 108+00 | 14. ABUTMENT FRAMING PLAN |
| 7. RAIL CROSS SECTIONS STA 71+74 TO STA 100+00 | 15. PIER FRAMING PLAN |
| 8. RAIL CROSS SECTIONS STA 105+00 TO STA 106+00 | 16. 119'-8" DECK PLATE GIRDER FRAMING PLAN |

REFERENCES

NONE



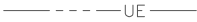













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ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT : BRIDGE 127.5 EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: COVER SHEET		
DESIGNED BY: AGH	SCALE : AS SHOWN	AFE NO.: 10944
DRAWN BY: AEP	DATE : DEC 17, 2021	DWG NO.
CHECKED BY: AGH	APPROVED BY: X	1 OF 16










LEGEND


TOPO

- EXISTING BRIDGE 
- EXISTING COMMUNICATIONS 
- EXISTING UNDERGROUND POWER 
- EXISTING WATER EDGE 
- EXISTING GRAVEL ROAD 
- EXISTING CULVERT 
- EDGE OF VEGETATION 
- EXISTING CONCRETE 
- EXISTING SIGN 
- CONTROL POINT 
- EXISTING POWER POLE 
- EXISTING ELECTRICAL PEDISTAL 
- EXISTING ELECTRICAL VAULT 
- EXISTING ELECTRICAL METER 
- EXISTING LIGHT POLE 
- EXISTING FIBER OPTIC VAULT 

TRACK

- EXISTING TRACK 
- PROPOSED TRACK 
- SHIFT TRACK 
- REMOVED TRACK 
- GRADING - CUT LIMITS 
- GRADING - FILL LIMITS 
- PROPOSED CULVERT EXTENSION 

RIGHT OF WAY

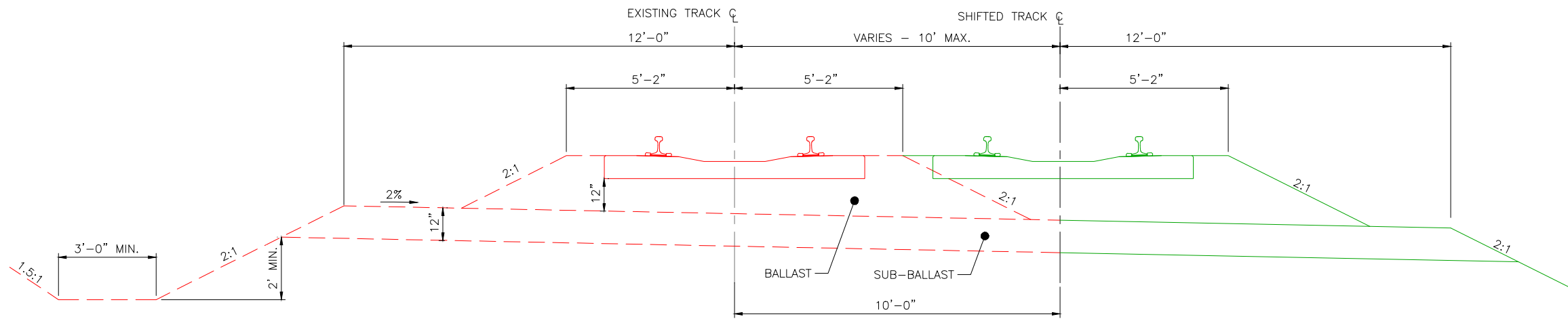
- EXISTING RIGHT OF WAY 

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2525 C Street, Suite 500
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907-644-2000

ALASKA RAILROAD CORPORATION ENGINEERING SERVICES <small>P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500</small>		
PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: LEGEND		
DESIGNED BY: KRK	SCALE : N.T.S.	AFE NO.: 10944
DRAWN BY: MMQ	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: KRK		2 OF 16
APPROVED BY: XX		



TRACK SHIFT SECTION

STA 73+50 - 77+60
STA 95+30 - 97+75

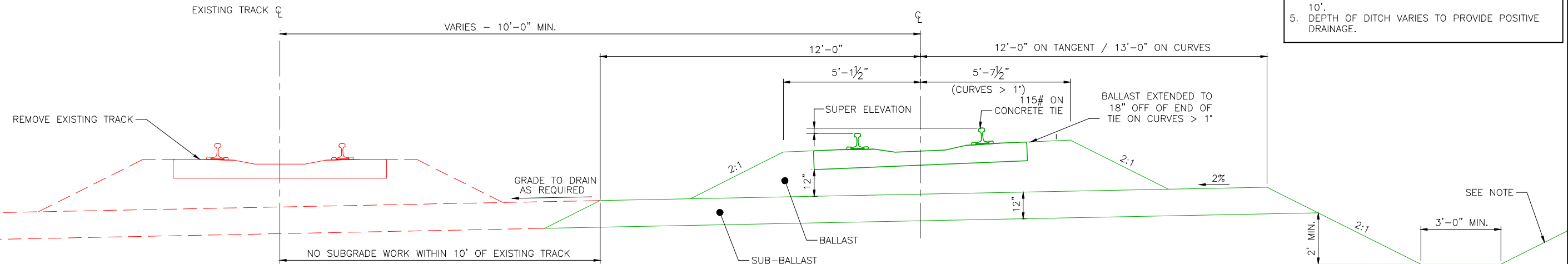
BALLAST REQUIRED FOR 100' TRACK		
CURVED TRACK	SUPER ELEVATION	CUBIC YARDS
	1"	80.1
	2"	84.8
	3"	89.6
	4"	94.9
5"	100.0	
TANGENT TRACK		84.3

SUB-BALLAST REQUIRED FOR 100' TRACK		
CURVED TRACK	DEGREE OF CURVE	CUBIC YARDS
	0' - 1'	96.3
	1' - 2'	98.2
	2' - 6'	100.0
	+ 6'	101.9
TANGENT TRACK		96.3

SUB-BALLAST WIDTH FOR DEGREE OF CURVATURE		
DIMENSIONS		
2'01" - 6'00" INCLUSIVE	13'	12'

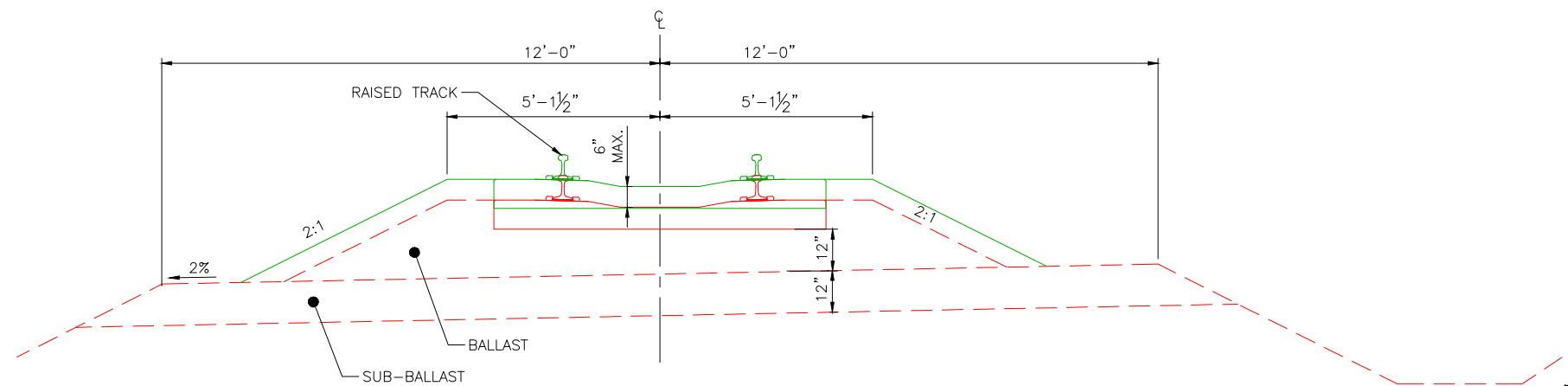
NOTES

- BALLAST DEPTH SHALL BE MINIMUM 12" UNDER TIE, MEASURED AT LOW RAIL.
- ALL QUANTITIES ESTIMATED, REPRESENT IN-PLACE, COMPACTED MATERIAL, BASED ON 2,640 EACH, 8'-3" CONCRETE TIES PER MILE AND MINIMUM BALLAST AND SUB-BALLAST DIMENSIONS.
- SUB GRADE SHALL SLOPE TO PREVAILING DRAINAGE SIDE ON TANGENT, OR TO THE INSIDE OF CURVE.
- SUBGRADE SLOPE TRANSITION RATE TO BE 1" IN 10'.
- DEPTH OF DITCH VARIES TO PROVIDE POSITIVE DRAINAGE.



NEW TRACK SECTION
STA 77+60 - 95+30

- NOTE:
- STA 77+60 TO 84+00 USE 2:1 SLOPE
 - STA 84+00 TO 95+30 USE 1.5:1 SLOPE



RAISE TRACK SECTION
STA 72+00 - 73+50
STA 97+75 - 99+74
STA 103+34 - 105+74

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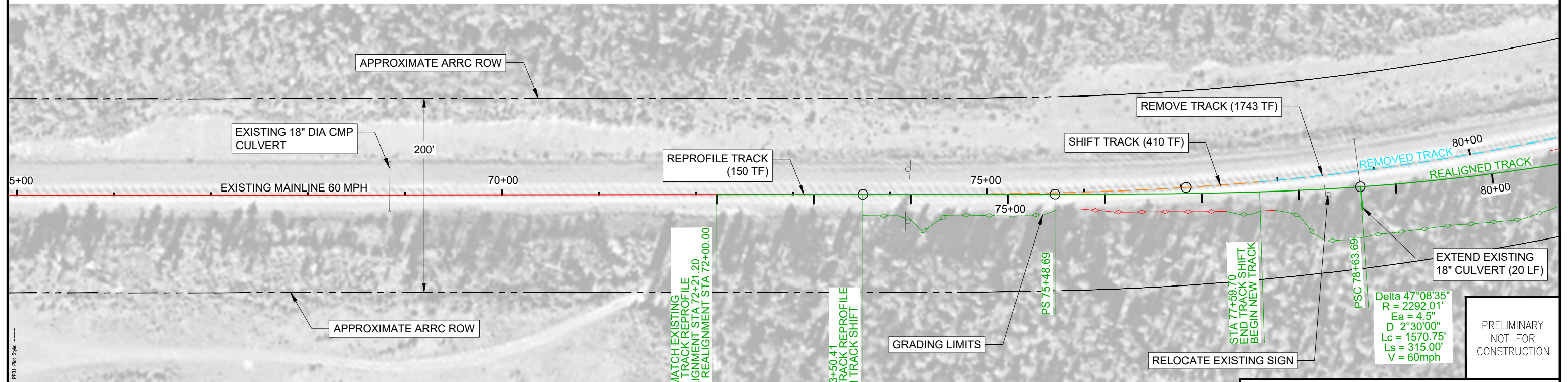
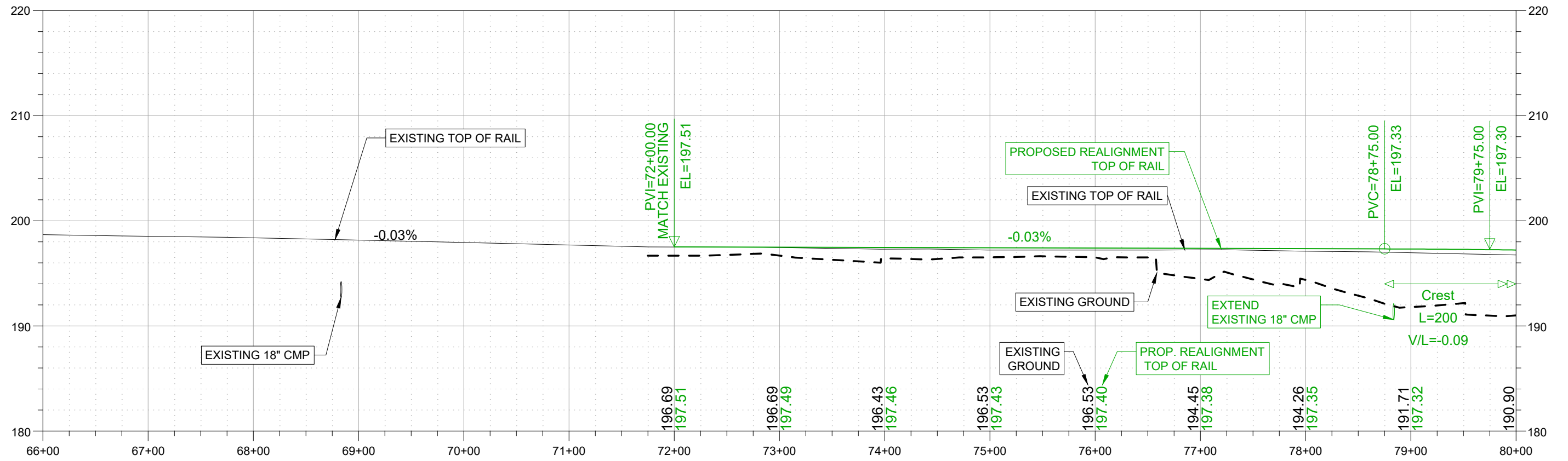
PROJECT :
BRIDGE 127.5 OVER EAGLE RIVER
BRIDGE REPLACEMENT

TITLE:
RAIL TYPICAL SECTIONS

DESIGNED BY: KRK	SCALE : N.T.S.	AFE NO.: 10944
DRAWN BY: MMQ	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: KRK		3 OF 16
APPROVED BY: XX		



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Delta 47°08'35"
 R = 2292.01'
 Ea = 4.5"
 D = 2°30'00"
 Lc = 1570.75'
 Ls = 315.00'
 V = 60mph

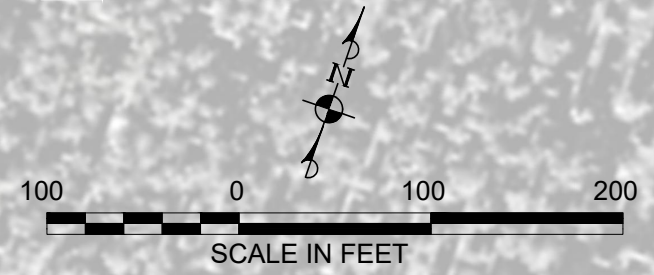
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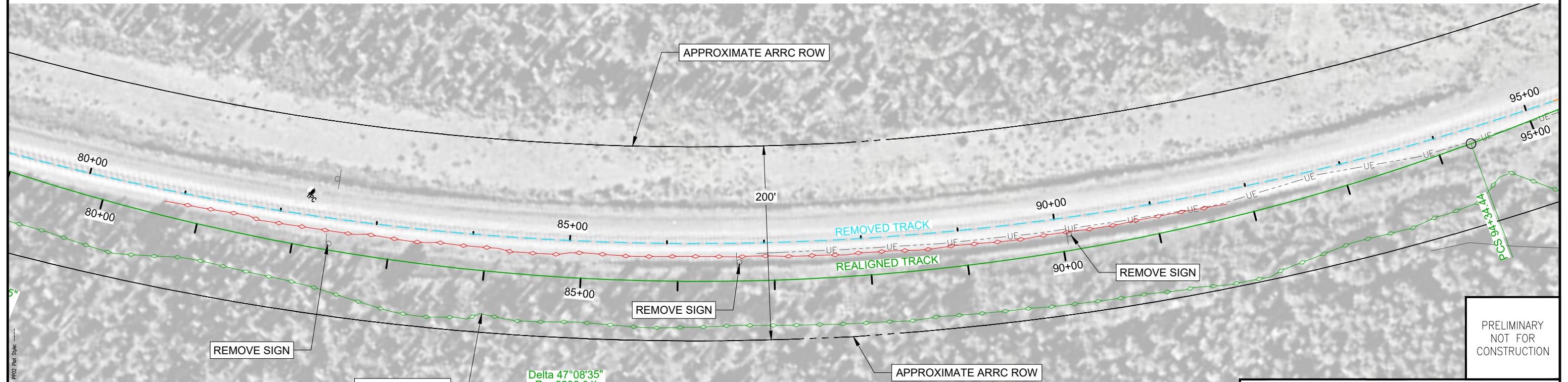
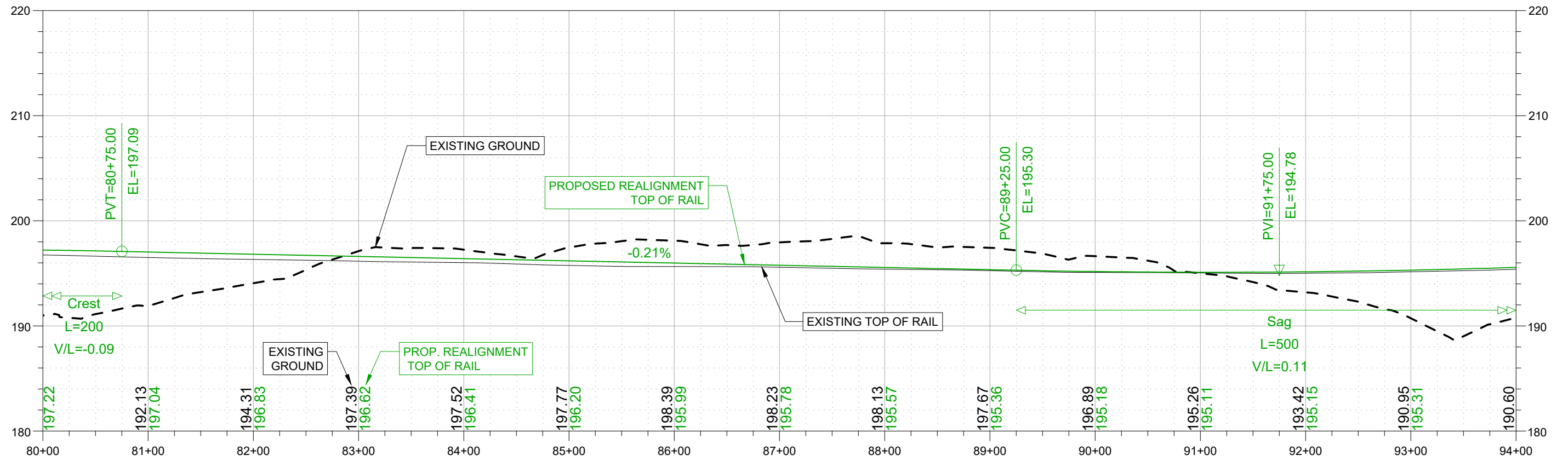
PROJECT :
**BRIDGE 127.5 OVER EAGLE RIVER
BRIDGE REPLACEMENT**

TITLE:
**TRACK PLAN AND PROFILE
STA 66+00 TO STA 80+00**

DESIGNED BY: KRK	SCALE : 1" = 100'	AFE NO.: 10944
DRAWN BY: MMQ	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: KRK		4 OF 16
APPROVED BY: XX		



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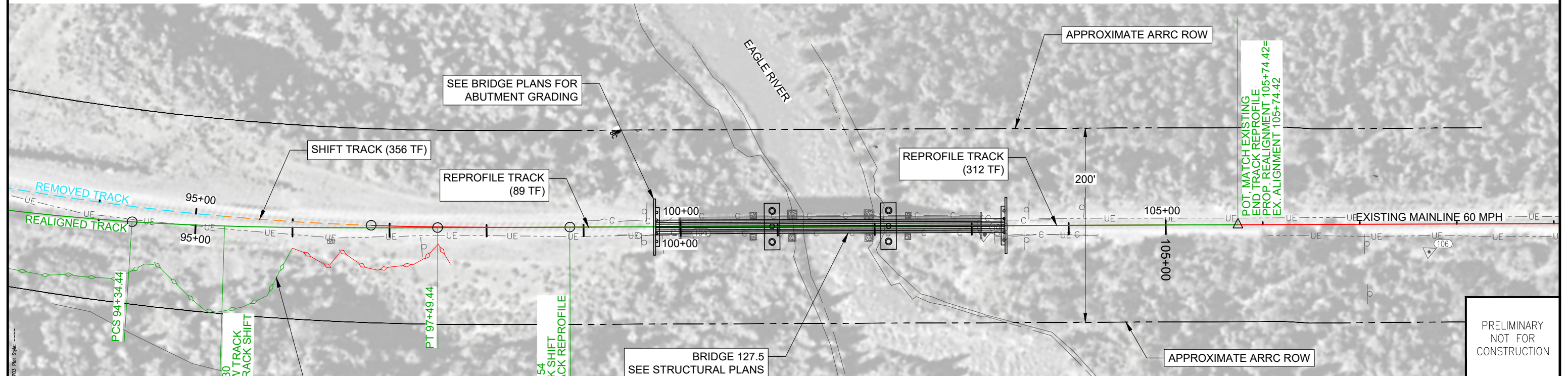
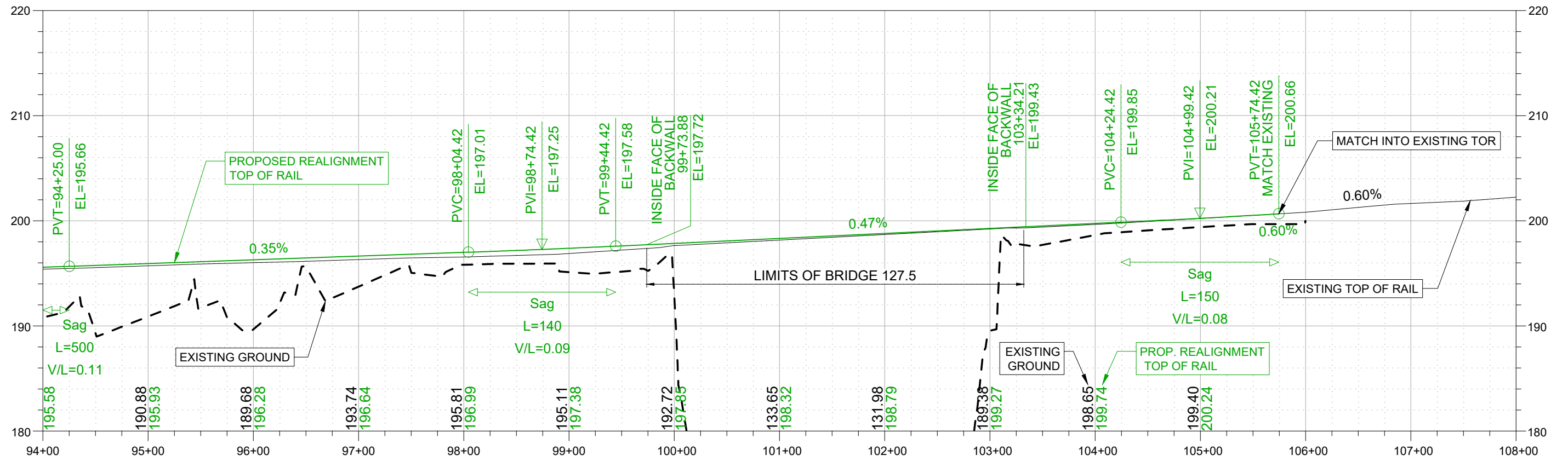


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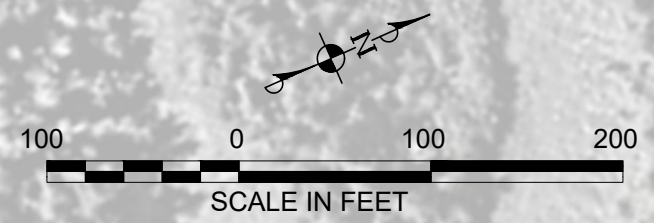
ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: TRACK PLAN AND PROFILE STA 80+00 TO STA 94+00		
DESIGNED BY: KRK	SCALE : 1" = 100'	AFE NO.: 10944
DRAWN BY: MMQ	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: KRK		5 OF 16
APPROVED BY: XX		



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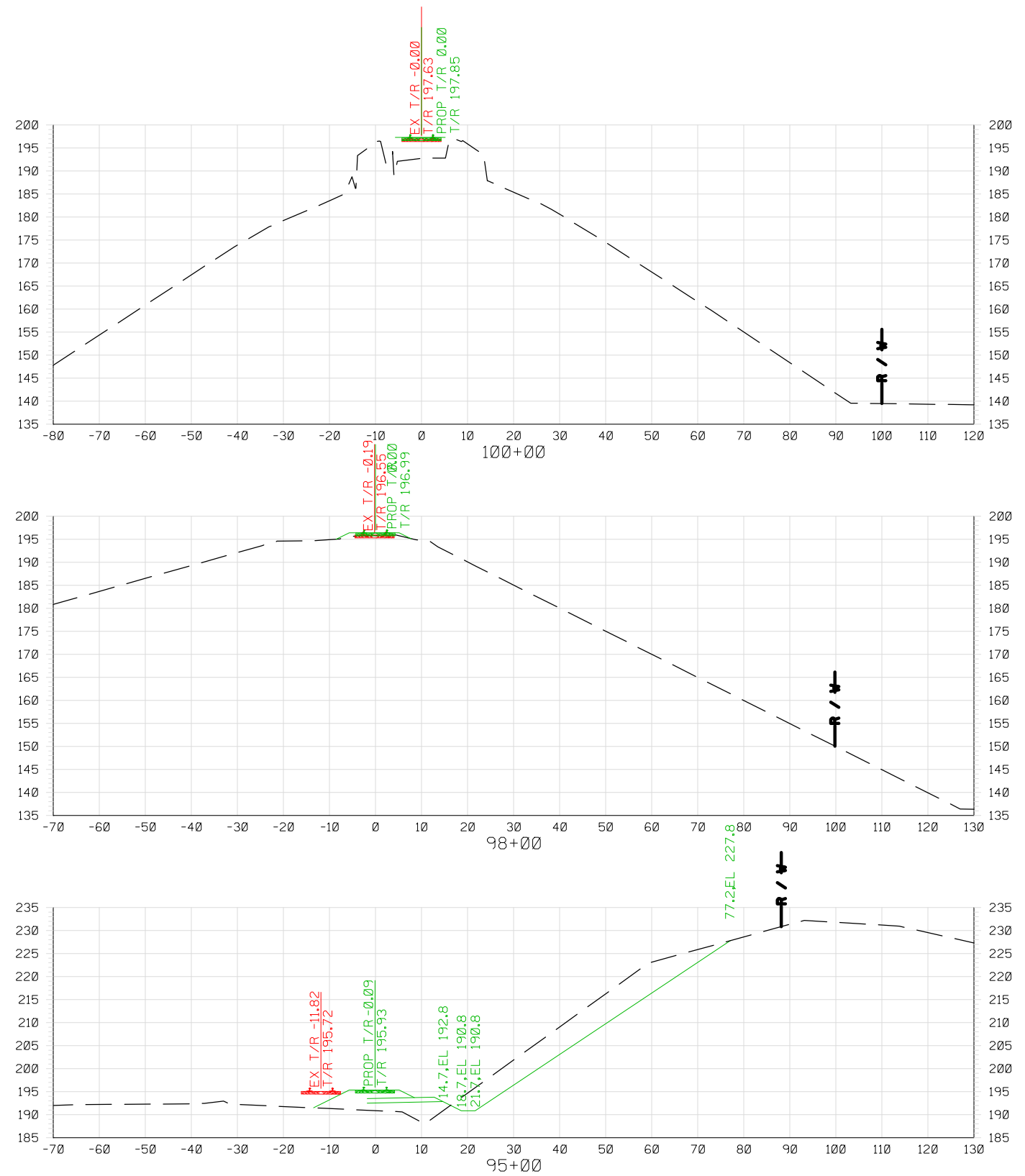
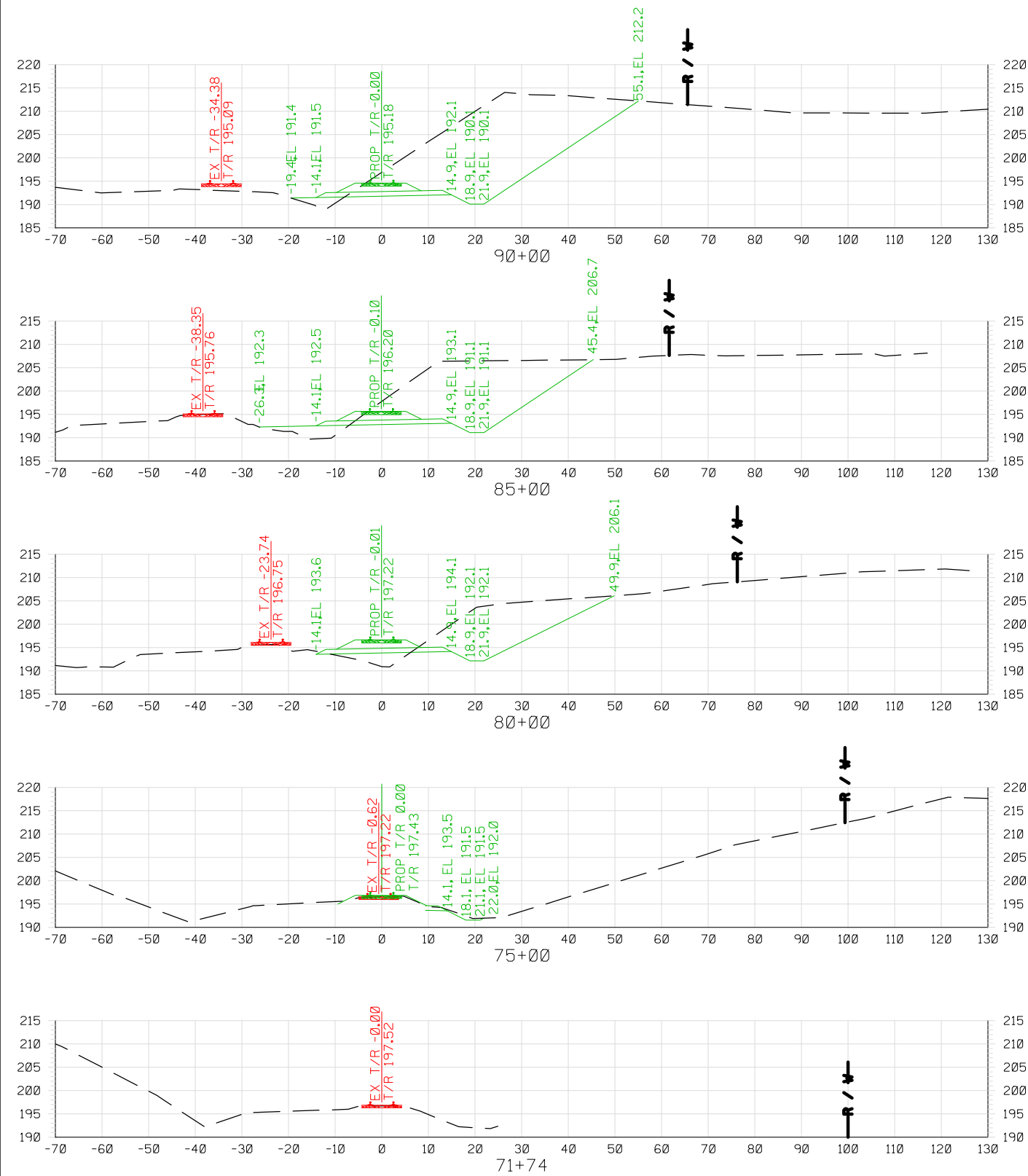


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PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: TRACK PLAN AND PROFILE STA 94+00 TO STA 108+00		
DESIGNED BY: KRK	SCALE : 1" = 100'	AFE NO.: 10944
DRAWN BY: MMQ	DATE : DEC. 17, 2021	DWG NO.
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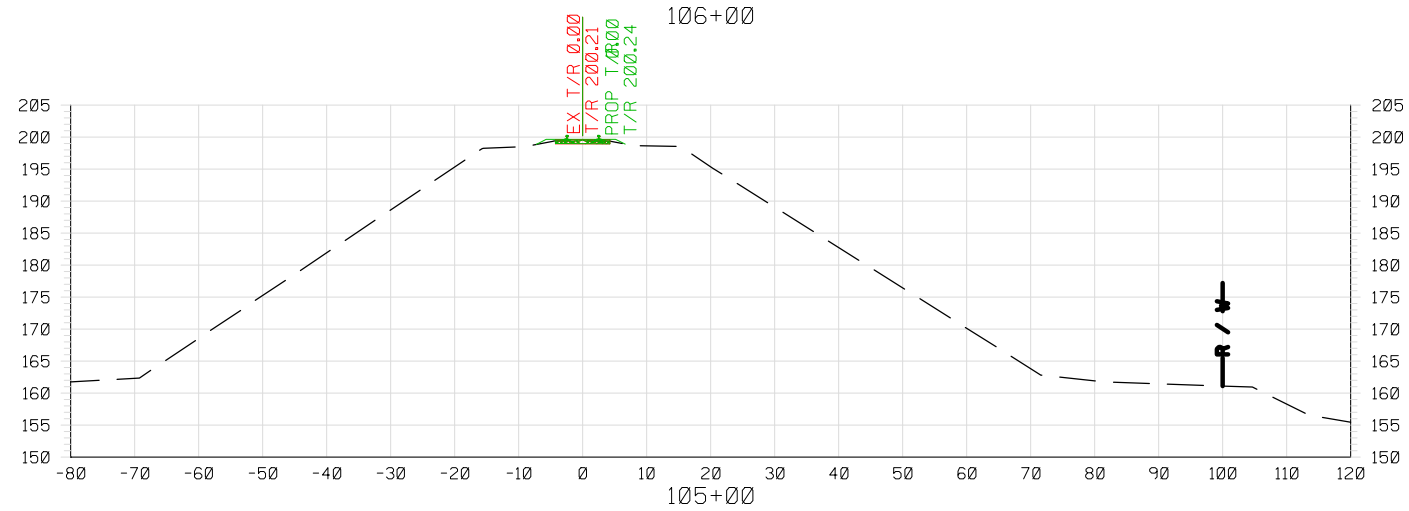
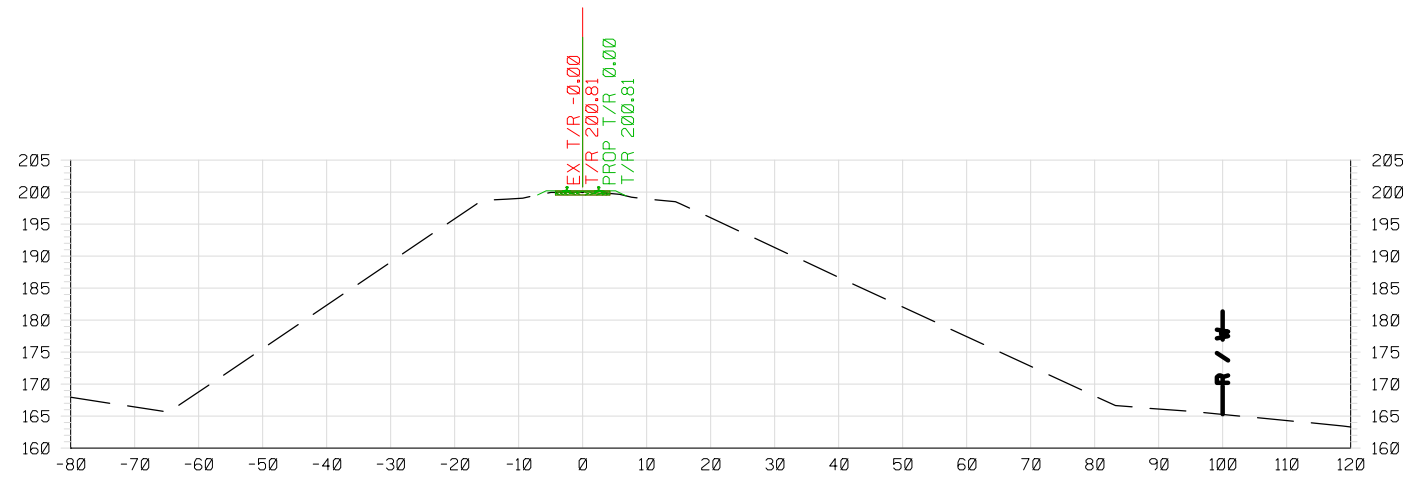


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PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: RAIL CROSS SECTIONS STA 71+74 TO STA 100+00		
DESIGNED BY: KRK	SCALE : N.T.S.	AFE NO.: 10944
DRAWN BY: MMQ	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: KRK		7 OF 16
APPROVED BY: XX		

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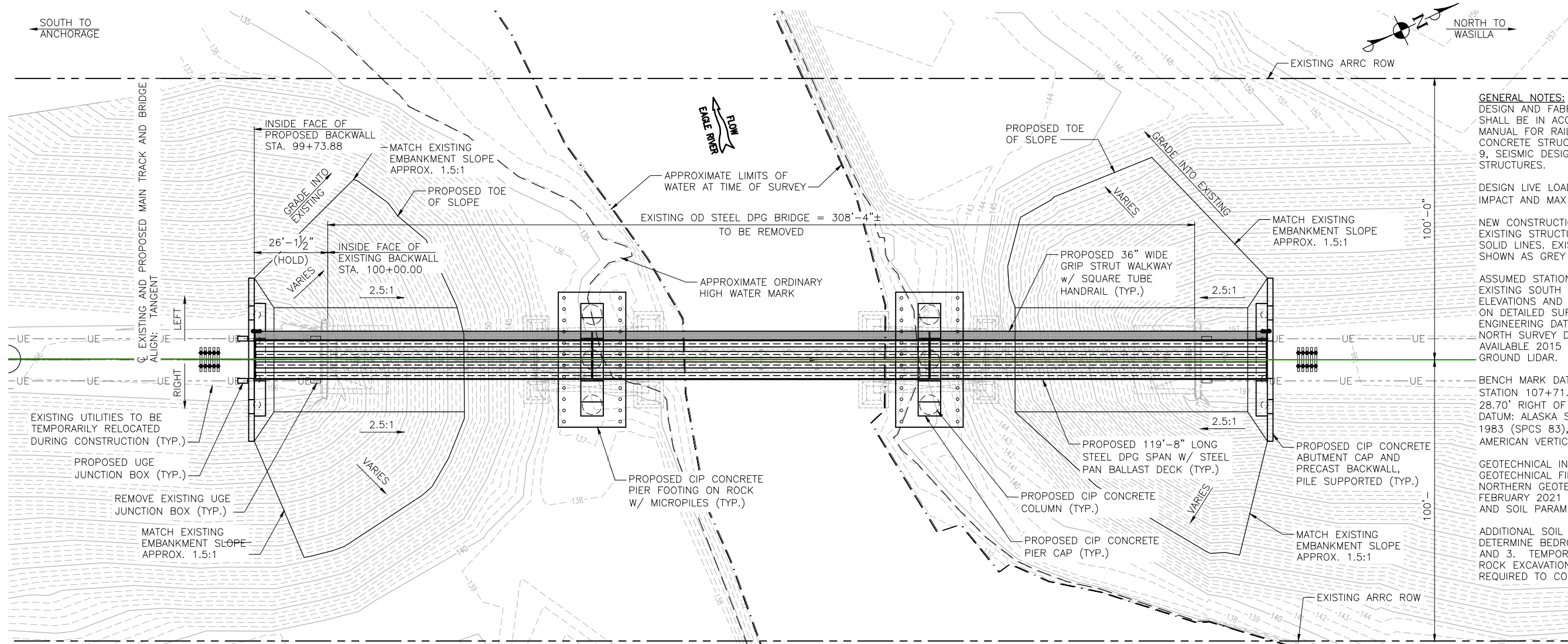
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PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: RAIL CROSS SECTIONS STA 105+00 TO STA 106+00		
DESIGNED BY: KRK	SCALE : N.T.S.	AFE NO.: 10944
DRAWN BY: MMQ	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: KRK	APPROVED BY: XX	8 OF 16



SOUTH TO ANCHORAGE

NORTH TO WASILLA



GENERAL NOTES:
 DESIGN AND FABRICATION OF NEW COMPONENTS SHALL BE IN ACCORDANCE WITH THE 2020 AREMA MANUAL FOR RAILWAY ENGINEERING CHAPTER 8, CONCRETE STRUCTURES AND FOUNDATIONS, CHAPTER 9, SEISMIC DESIGN, AND CHAPTER 15, STEEL STRUCTURES.

DESIGN LIVE LOADING IS COOPER E80 WITH DIESEL IMPACT AND MAX 30" BALLAST DEPTH.

NEW CONSTRUCTION SHOWN AS HEAVY LINES. EXISTING STRUCTURE TO REMAIN SHOWN AS GREY SOLID LINES. EXISTING STRUCTURE TO BE REMOVED SHOWN AS GREY DASHED LINES.

ASSUMED STATIONING IS BASED ON INSIDE FACE OF EXISTING SOUTH BACKWALL AS STATION 100+00. ELEVATIONS AND EXISTING BRIDGE LAYOUT ARE BASED ON DETAILED SURVEY COMPLETED BY KUNA ENGINEERING DATED AUGUST 17, 2021, ALL POINTS NORTH SURVEY DATED JUNE 29, 2020, AND AVAILABLE 2015 MUNICIPALITY OF ANCHORAGE GROUND LIDAR.

BENCH MARK DATA: ARRC CONTROL POINT 106, STATION 107+71.45. ELEVATION 208.39' OFFSET 28.70' RIGHT OF CL MAIN TRACK. HORIZONTAL DATUM: ALASKA STATE PLANE COORDINATE SYSTEM OF 1983 (SPCS 83), ZONE 4. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

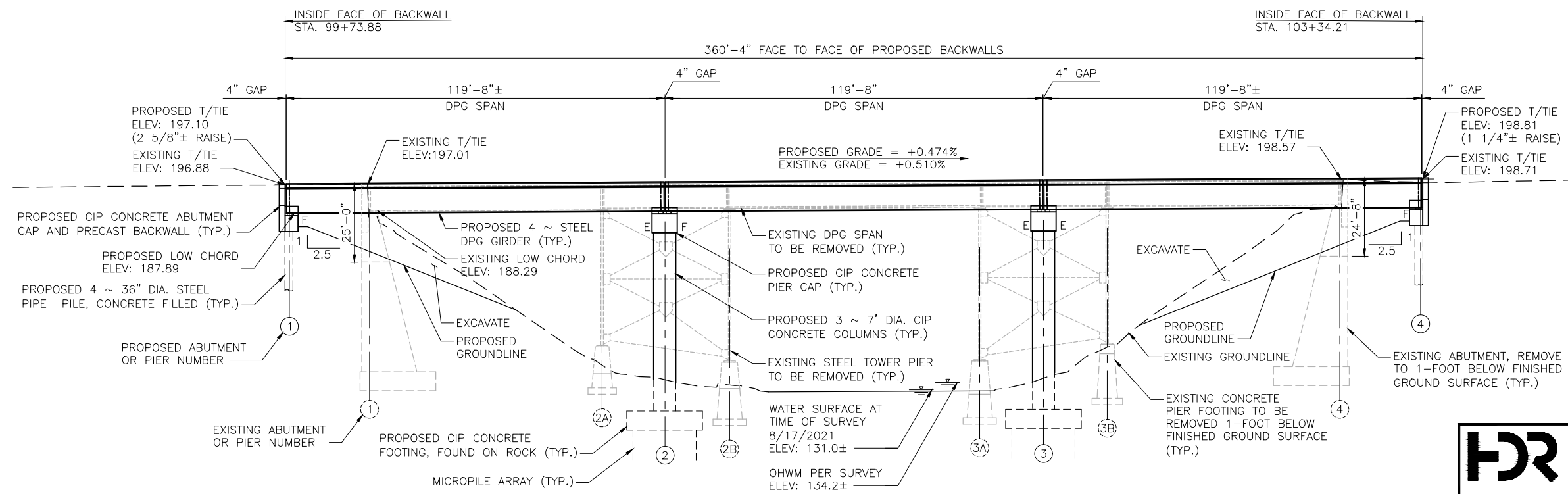
GEOTECHNICAL INFORMATION IS BASED ON GEOTECHNICAL FINDINGS REPORT PREPARED BY NORTHERN GEOTECHNICAL ENGINEERING, INC. DATED FEBRUARY 2021 AND PRELIMINARY SEISMIC DESIGN AND SOIL PARAMETERS PROVIDED IN AUGUST 2021.

ADDITIONAL SOIL INVESTIGATION TO BE COMPLETED TO DETERMINE BEDROCK DEPTHS AT PROPOSED PIERS 2 AND 3. TEMPORARY SHORING, LEVELING SLABS, ROCK EXCAVATION, AND COFFERDAMS MAY BE REQUIRED TO COMPLETE FOOTING INSTALLATION.

PLAN
 SCALE: 1" = 40'

ESTIMATED LIFT WEIGHTS	
COMPONENT	WEIGHT
119'-8" DPG SPAN	474,700 LBS

* WEIGHT OF FULLY ASSEMBLED SPAN AND WALKWAY (BALLAST AND TRACK MATERIAL NOT INCLUDED)



ELEVATION
 SCALE: 1" = 40'

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ALASKA RAILROAD CORPORATION
 ENGINEERING SERVICES
 P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT: BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT

TITLE: GENERAL ARRANGEMENT

DESIGNED BY: AGH
 DRAWN BY: AEP
 CHECKED BY: AGH
 APPROVED BY: X

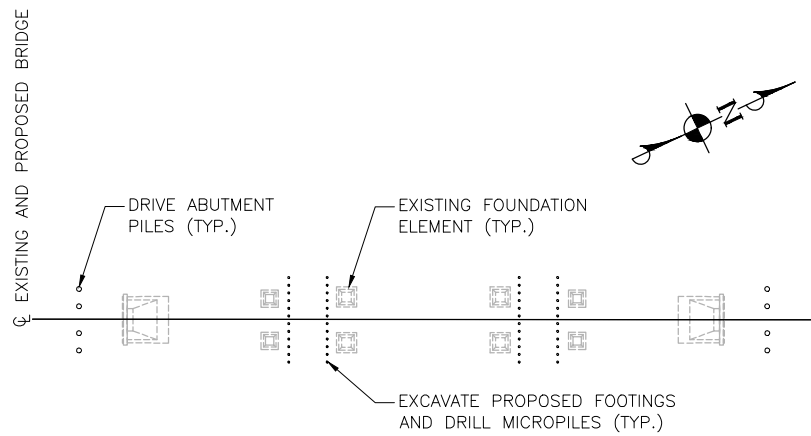
SCALE: AS SHOWN
 DATE: DEC. 17, 2021

AFE NO.: 10944
 DWG NO. 9 OF 16

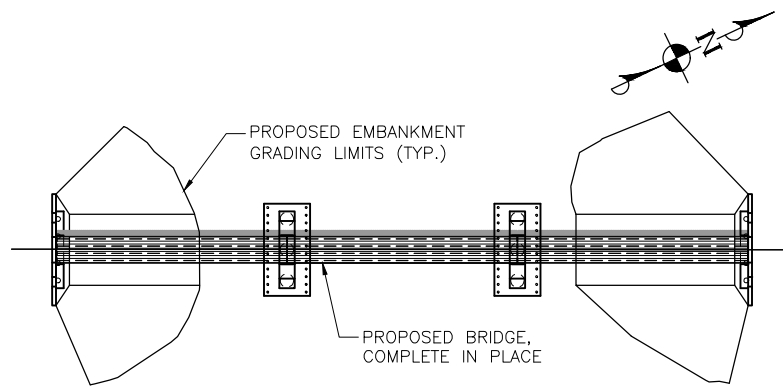


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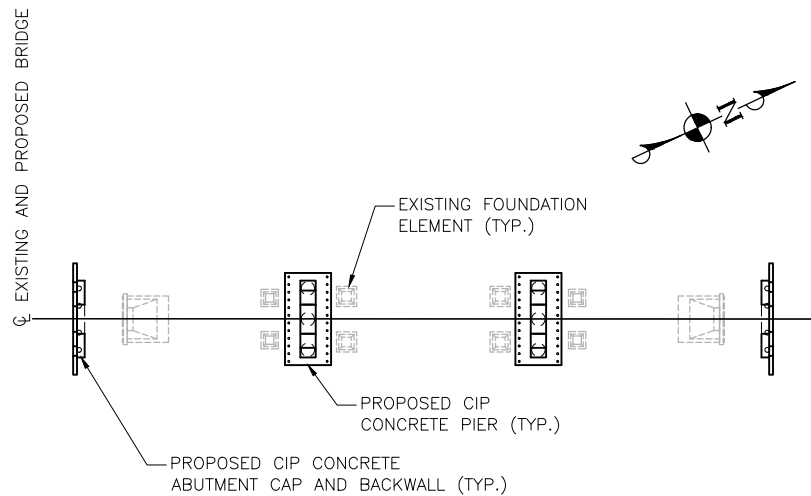
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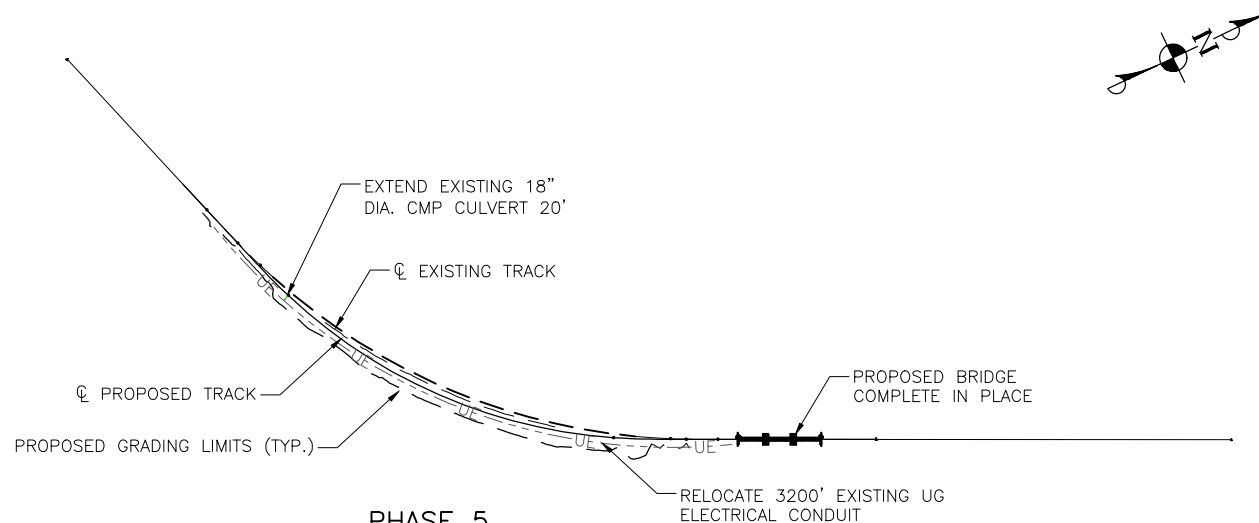
PHASE 1
 INSTALL TEMPORARY SHORING AT PIERS AS NEEDED.
 INSTALL TEMPORARY JUMP SPANS AT ABUTMENTS AS NEEDED.
 DRIVE ABUTMENT PILES, DRILL MICROPILES AT PIERS.



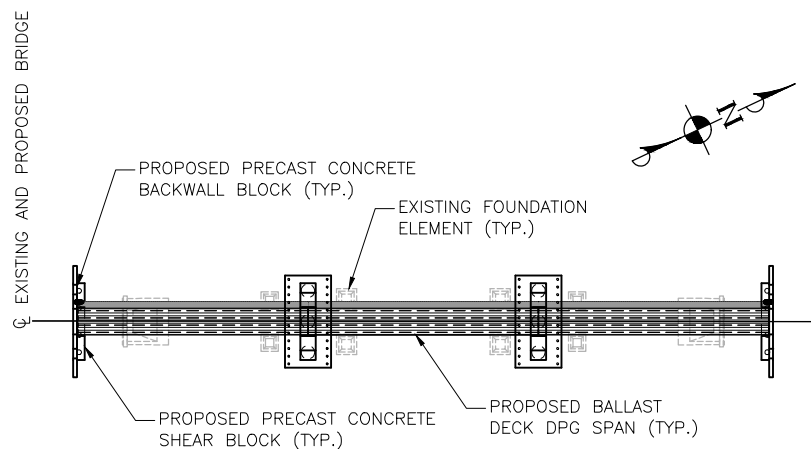
PHASE 4
 REMOVE REMAINING EXISTING SUBSTRUCTURE AND RESTORE SITE.
 REMOVE TEMPORARY SHORING AT PIERS.



PHASE 2
 CONSTRUCT CIP CONCRETE PIERS AND ABUTMENTS.
 REMOVE TEMPORARY JUMP SPANS AT ABUTMENTS.



PHASE 5
 REALIGN TRACK, RELOCATE UTILITIES, AND EXTEND CULVERT (TRACK OUTAGE).
 RELOCATE 3200' EXISTING UG ELECTRICAL CONDUIT



PHASE 3
 REMOVE EXISTING SPANS AND SET NEW SPANS, BACKWALL BLOCKS, AND SHEAR BLOCKS
 AND CUT DOWN EXISTING ABUTMENTS (TRACK OUTAGE).

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ENGINEERING SERVICES

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

PROJECT :
**BRIDGE 127.5 OVER EAGLE RIVER
 BRIDGE REPLACEMENT**

TITLE:
CONSTRUCTION PHASING PLAN

DESIGNED BY: AGH	SCALE : AS SHOWN	AFE NO.: 10944
DRAWN BY: AEP	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: AGH		10 OF 16
APPROVED BY: X		

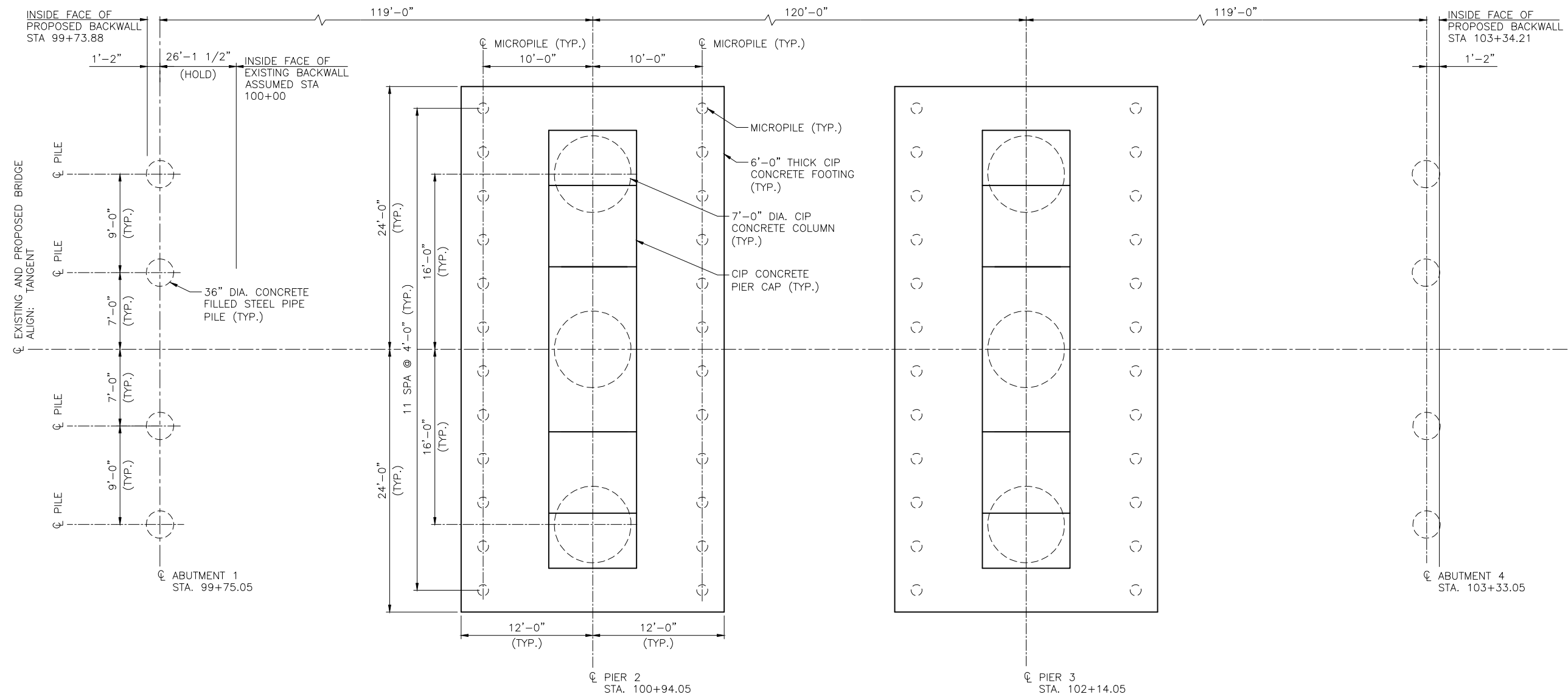


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SOUTH TO ANCHORAGE

NORTH TO WASILLA



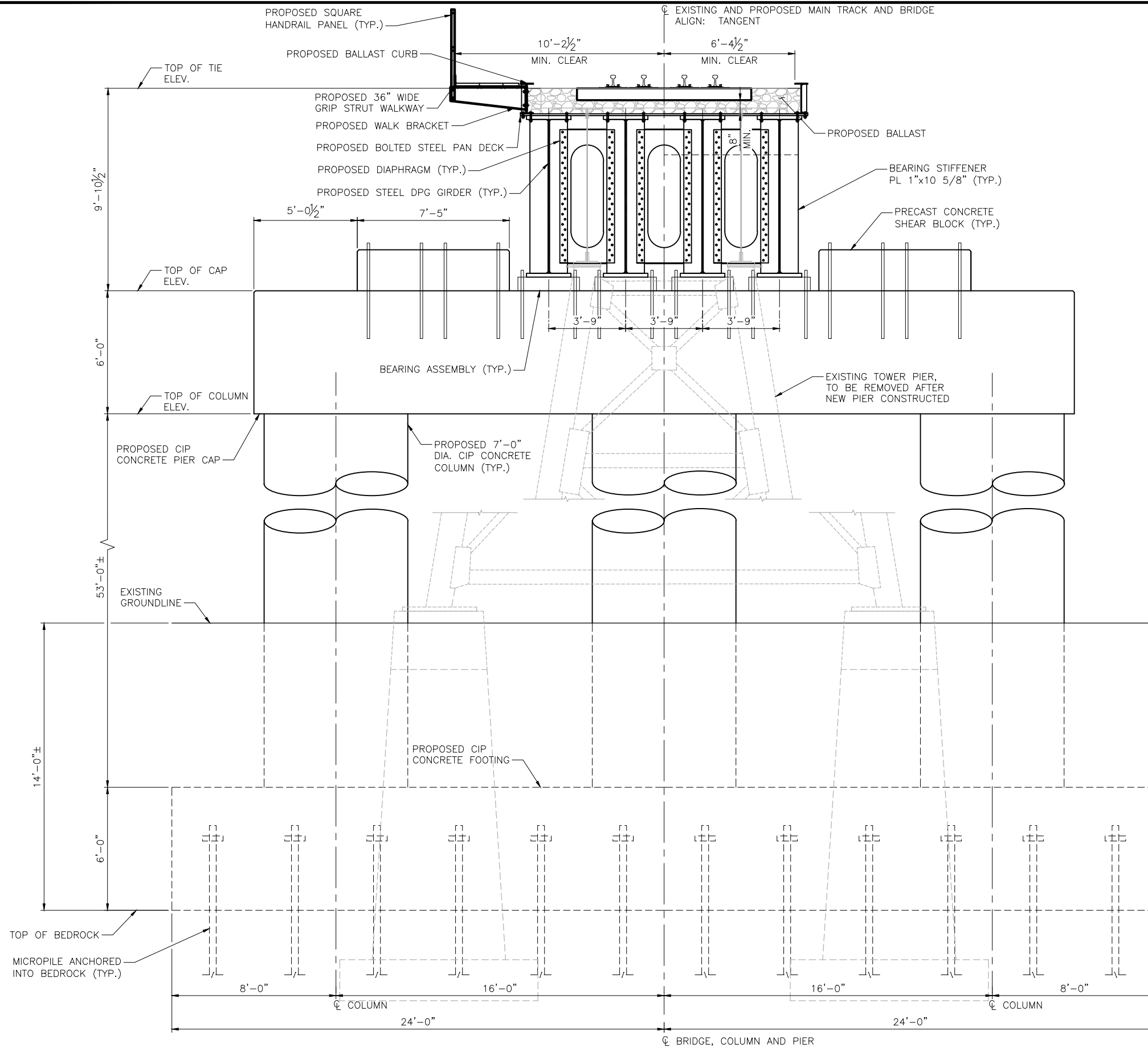
FOUNDATION PLAN
SCALE: 3/32" = 1'-0"

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ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: FOUNDATION PLAN		
DESIGNED BY: AGH	SCALE : AS SHOWN	AFE NO.: 10944
DRAWN BY: AEP	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: AGH		11 OF 16
APPROVED BY: X		



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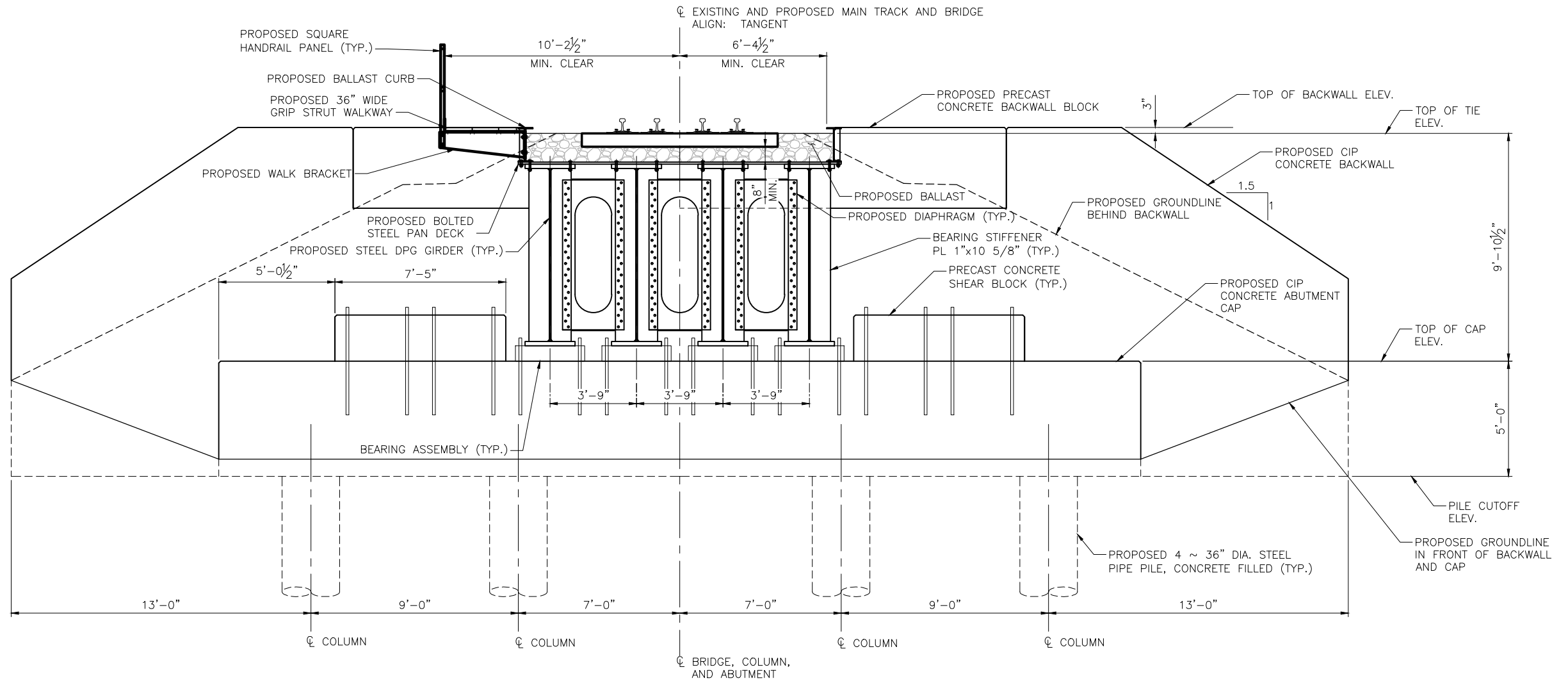


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ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: BRIDGE TYPICAL SECTIONS (1 OF 2)		
DESIGNED BY: AGH	SCALE : AS SHOWN	AFE NO.: 10944
DRAWN BY: AEP	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: AGH		12 OF 16
APPROVED BY: X		



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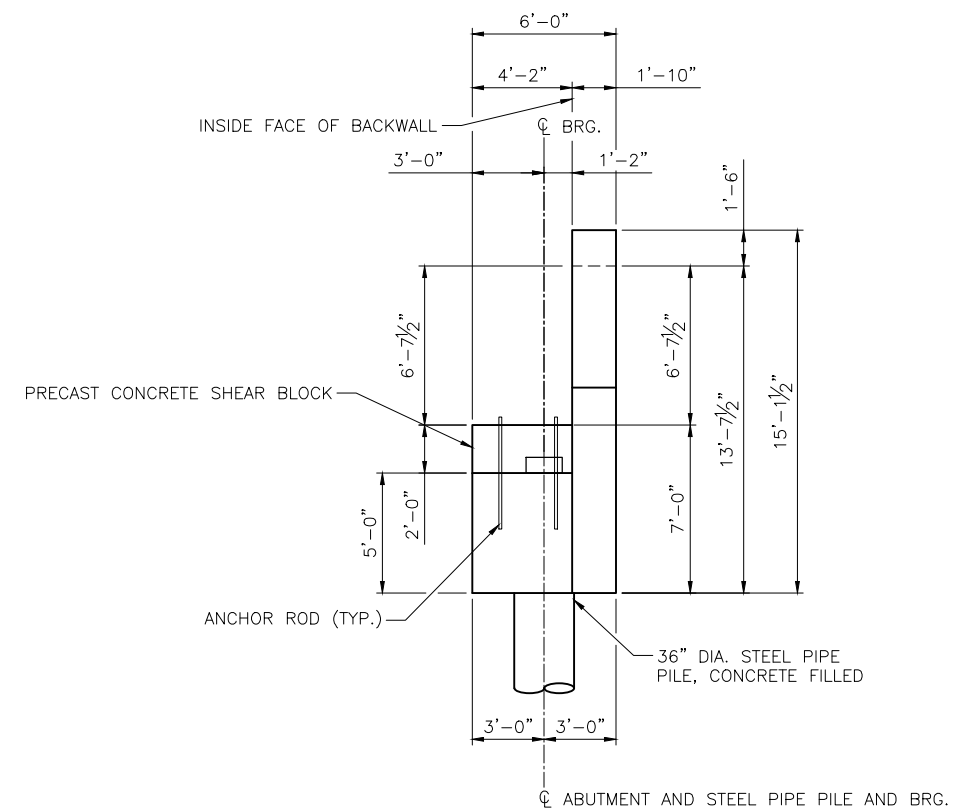
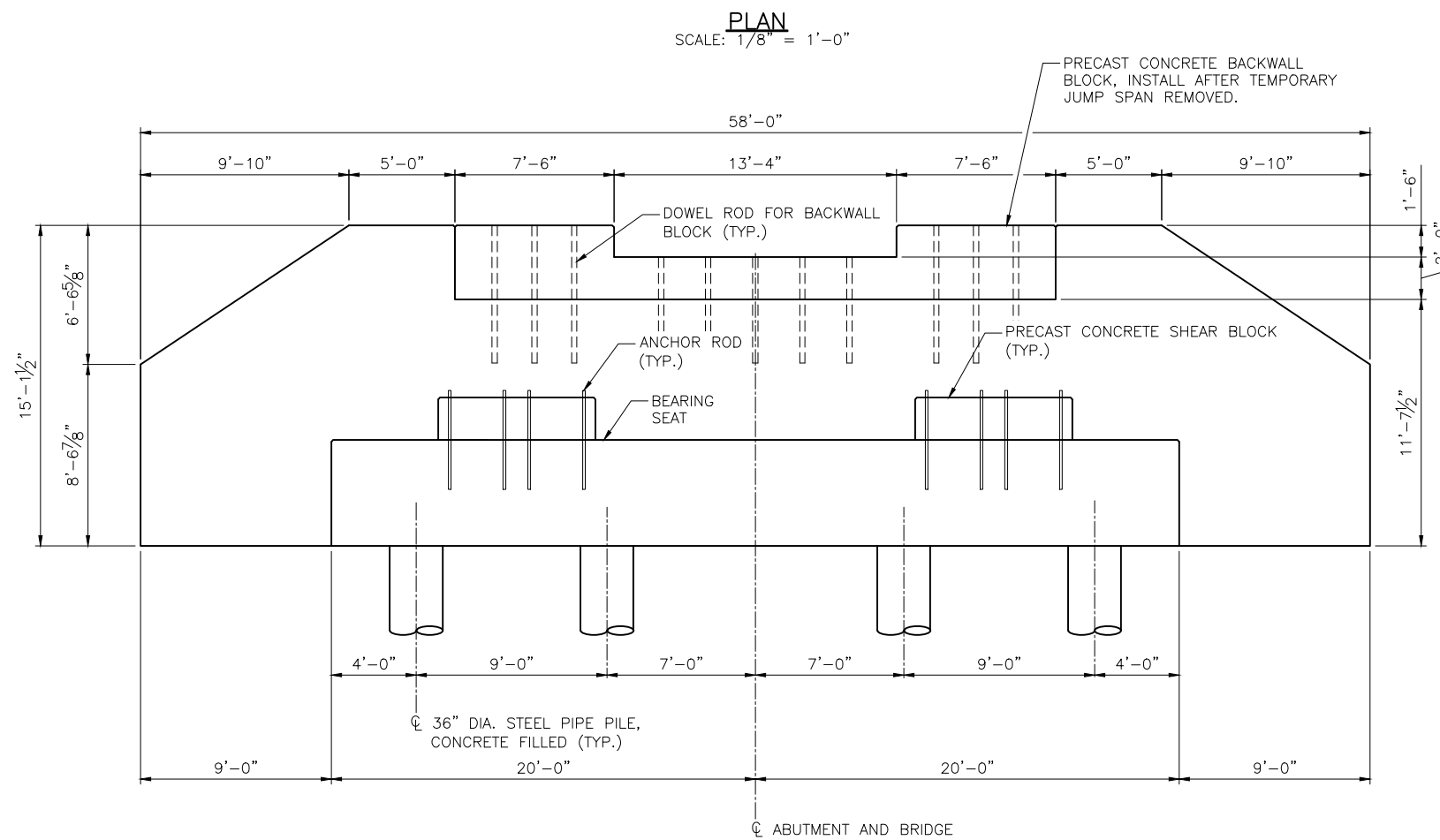
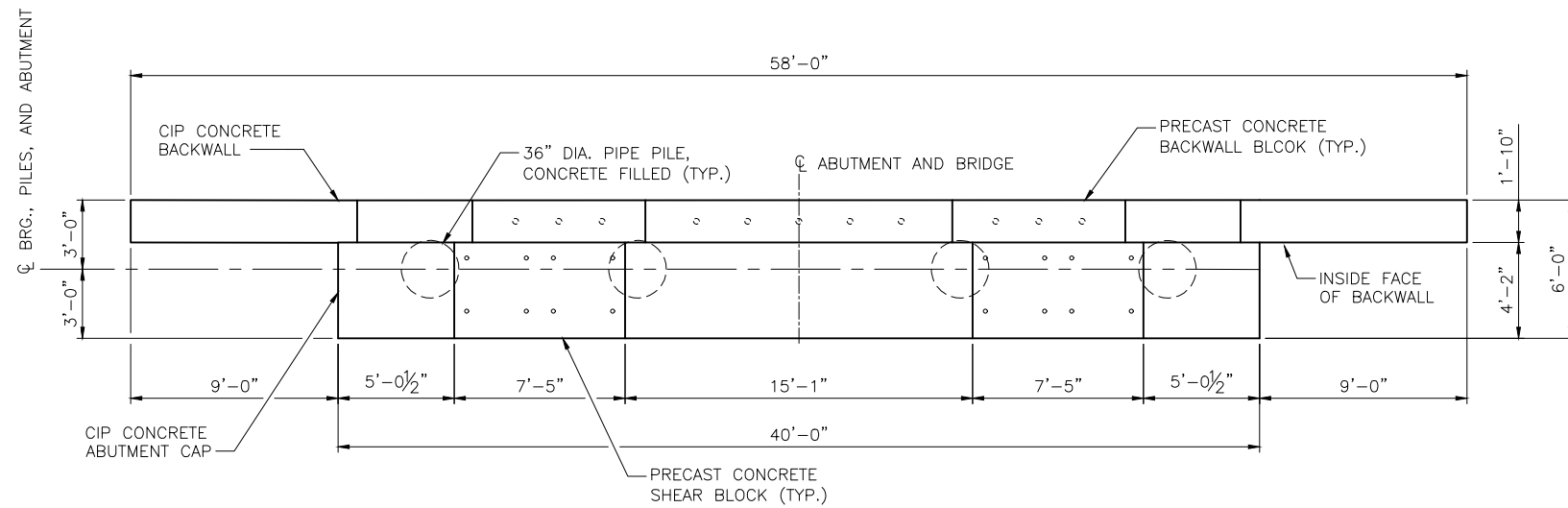
SECTION - ABUTMENT

SCALE: 3/16" = 1'-0"
EXISTING ABUTMENT NOT SHOWN FOR CLARITY.

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ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: BRIDGE TYPICAL SECTIONS (2 OF 2)		
DESIGNED BY: AGH	SCALE : AS SHOWN	AFE NO.: 10944
DRAWN BY: AEP	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: AGH		13 OF 16
APPROVED BY: X		





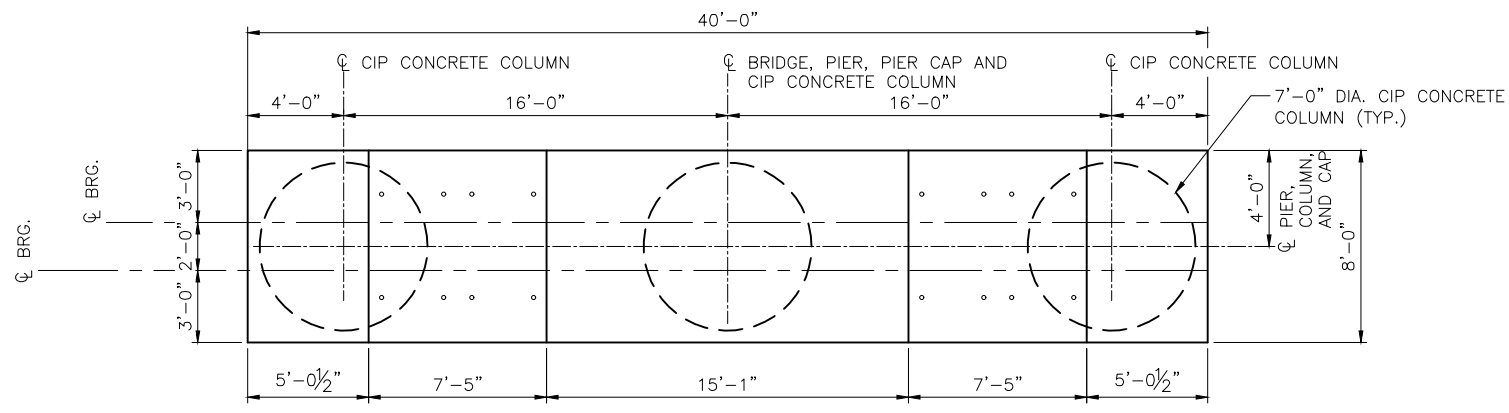
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ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT		
TITLE: ABUTMENT FRAMING PLAN		
DESIGNED BY: AGH	SCALE : AS SHOWN	AFE NO.: 10944
DRAWN BY: AEP	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: AGH	APPROVED BY: X	14 OF 16

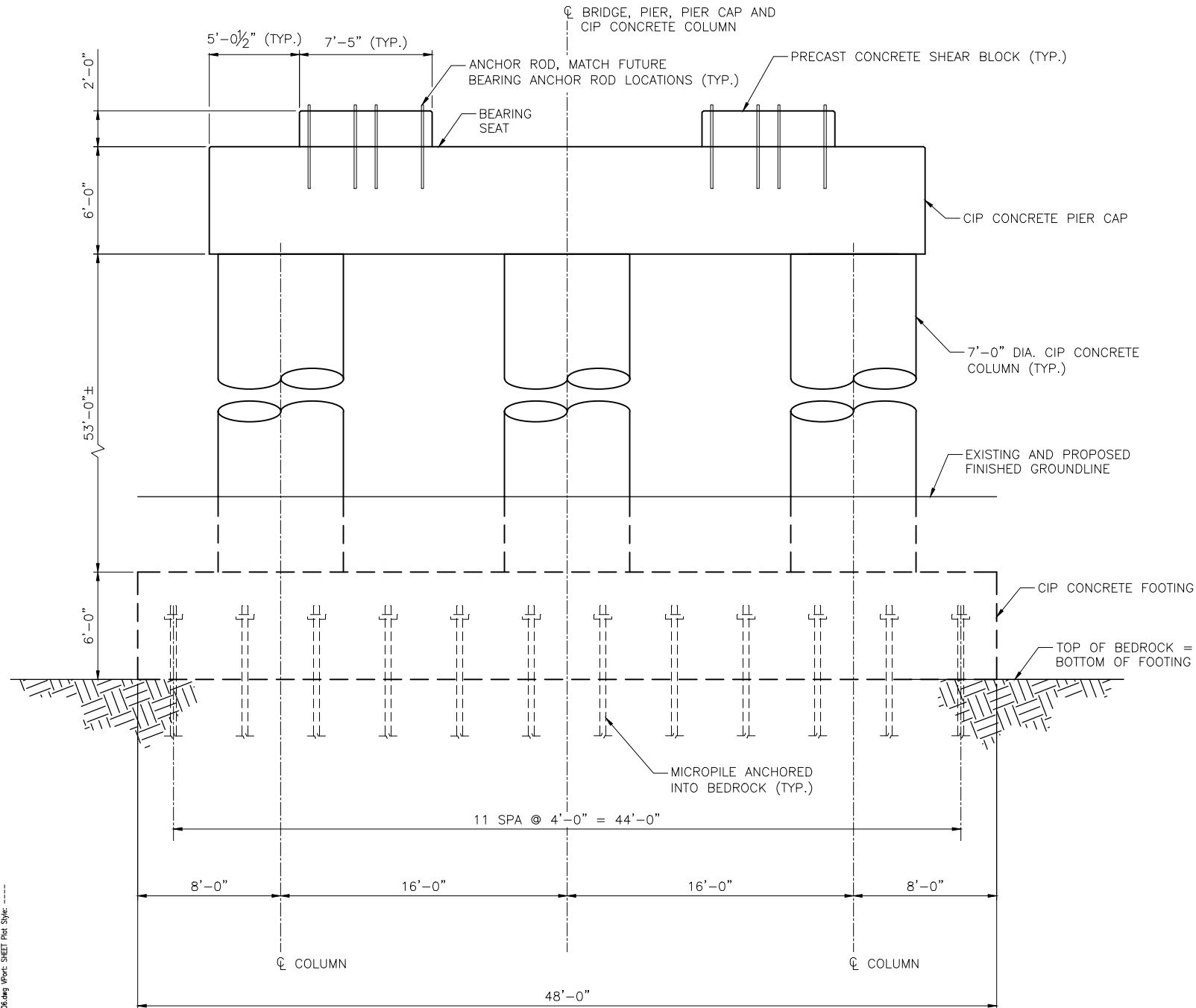


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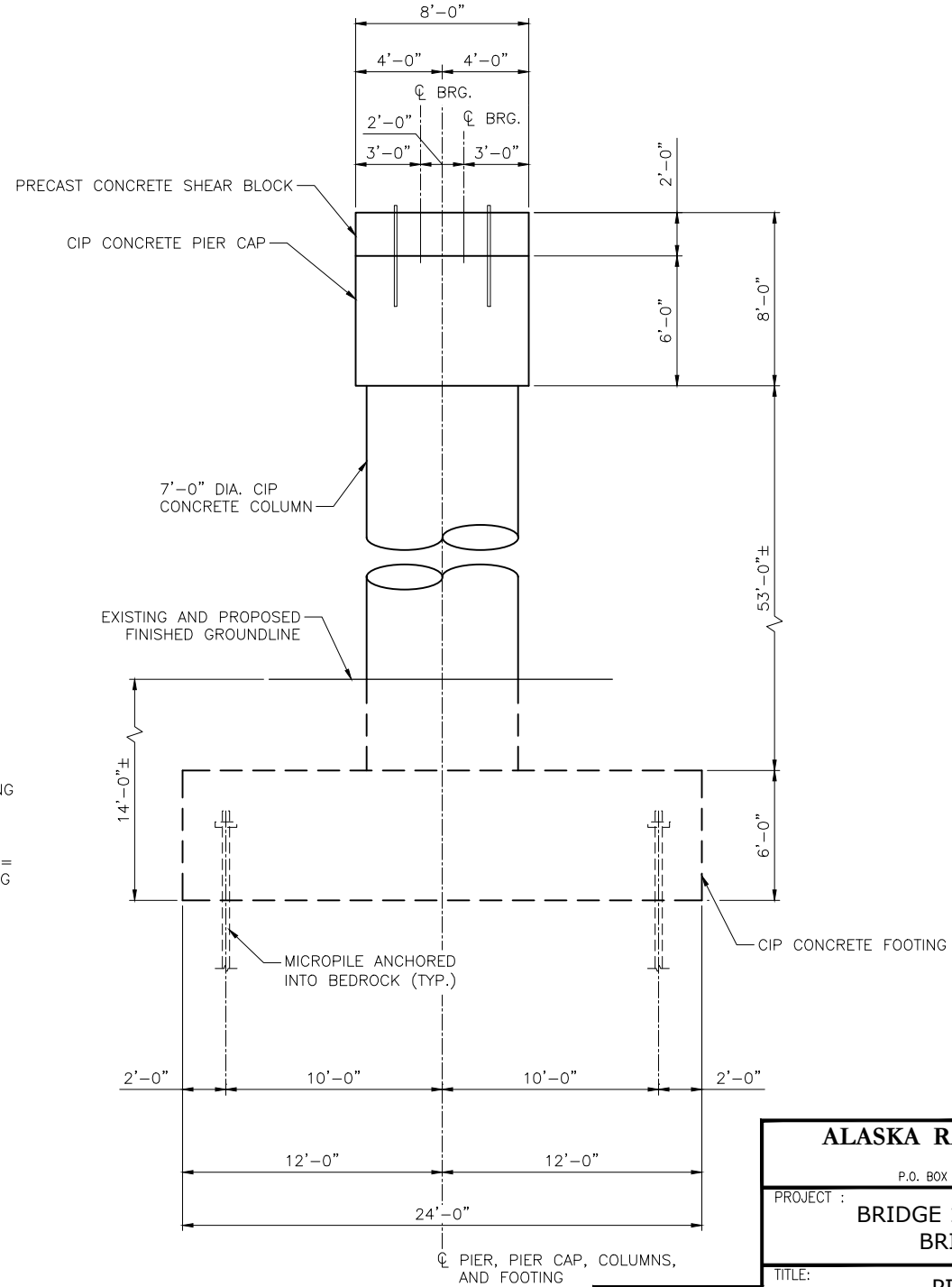
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PLAN
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"



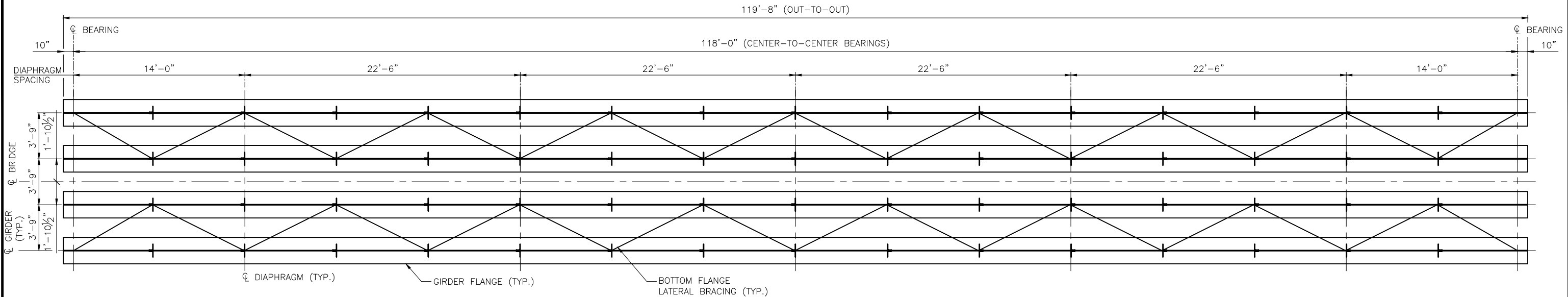
END VIEW
SCALE: 1/8" = 1'-0"

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CONSTRUCTION

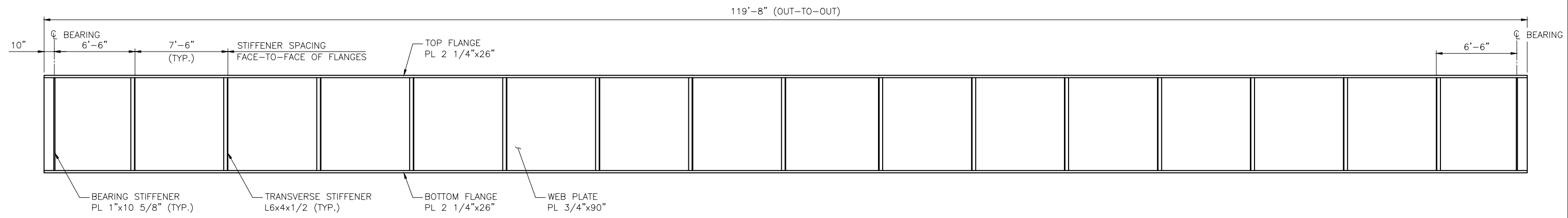
ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500	
PROJECT : BRIDGE 127.5 OVER EAGLE RIVER BRIDGE REPLACEMENT	
TITLE: PIER FRAMING PLAN	
DESIGNED BY: AGH	SCALE : AS SHOWN
DRAWN BY: AEP	DATE : DEC. 17, 2021
CHECKED BY: AGH	APPROVED BY: X
AFE NO.: 10944	DWG NO. 15 OF 16



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PLAN
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"

PRELIMINARY
NOT FOR
CONSTRUCTION

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT :
**BRIDGE 127.5 OVER EAGLE RIVER
BRIDGE REPLACEMENT**

TITLE:
119'-8" DECK PLATE GIRDER FRAMING PLAN

DESIGNED BY: AGH	SCALE : AS SHOWN	AFE NO.: 10944
DRAWN BY: AEP	DATE : DEC. 17, 2021	DWG NO.
CHECKED BY: AGH		16 OF 16
APPROVED BY: X		



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