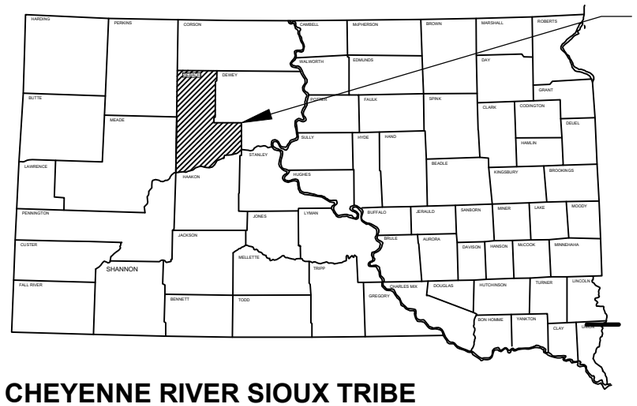


PROJECT
PCAS # A0111000

CHEYENNE RIVER INDIAN RESERVATION
ZIEBACH COUNTY, SOUTH DAKOTA
CHEYENNE RIVER SIOUX TRIBE
BIA 12 REHABILITATION
PCAS # A0111000
AGGREGATE BASE, GRAVEL STABILIZATION, ASPHALT PAVING AND GUARDRAIL
TOTAL PROJECT LENGTH = 18.1 MILES
OCTOBER 2022

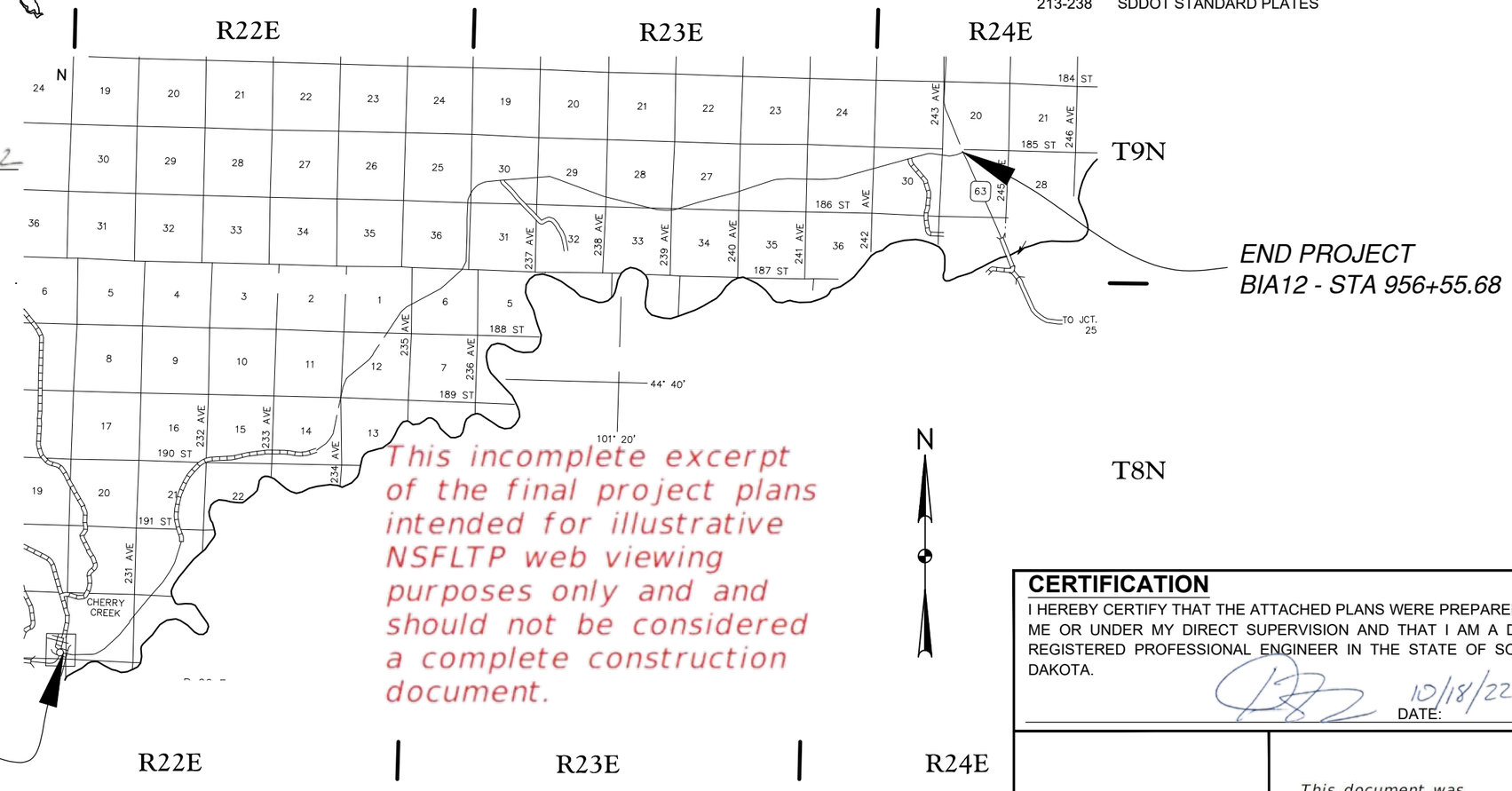
INDEX OF SHEETS

SECTIONS	
1	COVER
2	SCOPE OF WORK
3-4	ESTIMATE OF QUANTITIES
5-10	TABLES AND GENERAL NOTES
11-13	TYPICAL SECTIONS AND SUPERELEVATION DATA
14	TRAFFIC CONTROL
15-95	PLAN AND PROFILES
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101-152	SIGNING AND PASSING ZONE TABLE
153-162	GUARDRAIL
163-212	CROSS SECTIONS
213-238	SDDOT STANDARD PLATES

CHEYENNE RIVER SIOUX TRIBE
TRANSPORTATION PROGRAM
SUBMITTED FOR APPROVAL:

DATE: 10/18/22

DIRECTOR, CHEYENNE RIVER SIOUX TRIBE
TRANSPORTATION PROGRAM



END PROJECT
BIA12 - STA 956+55.68

BEGIN PROJECT
BIA 12 - STA 1+90.00

This incomplete excerpt of the final project plans intended for illustrative NSFLTP web viewing purposes only and and should not be considered a complete construction document.

Minnicoujou Itazipco
Siha Sapa 1868 Oohenumpa

GROSS LENGTH	95,466 FEET	18.1	MILES
EXCEPTIONS	900 FEET	0.17	MILES
NET LENGTH	94,566 FEET	17.9	MILES

DESIGN DESIGNATION

ADT (2018) <100
ADT (2038) <100
DESIGN SPEED 60 MPH

CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF SOUTH DAKOTA.

DATE: 10/18/22

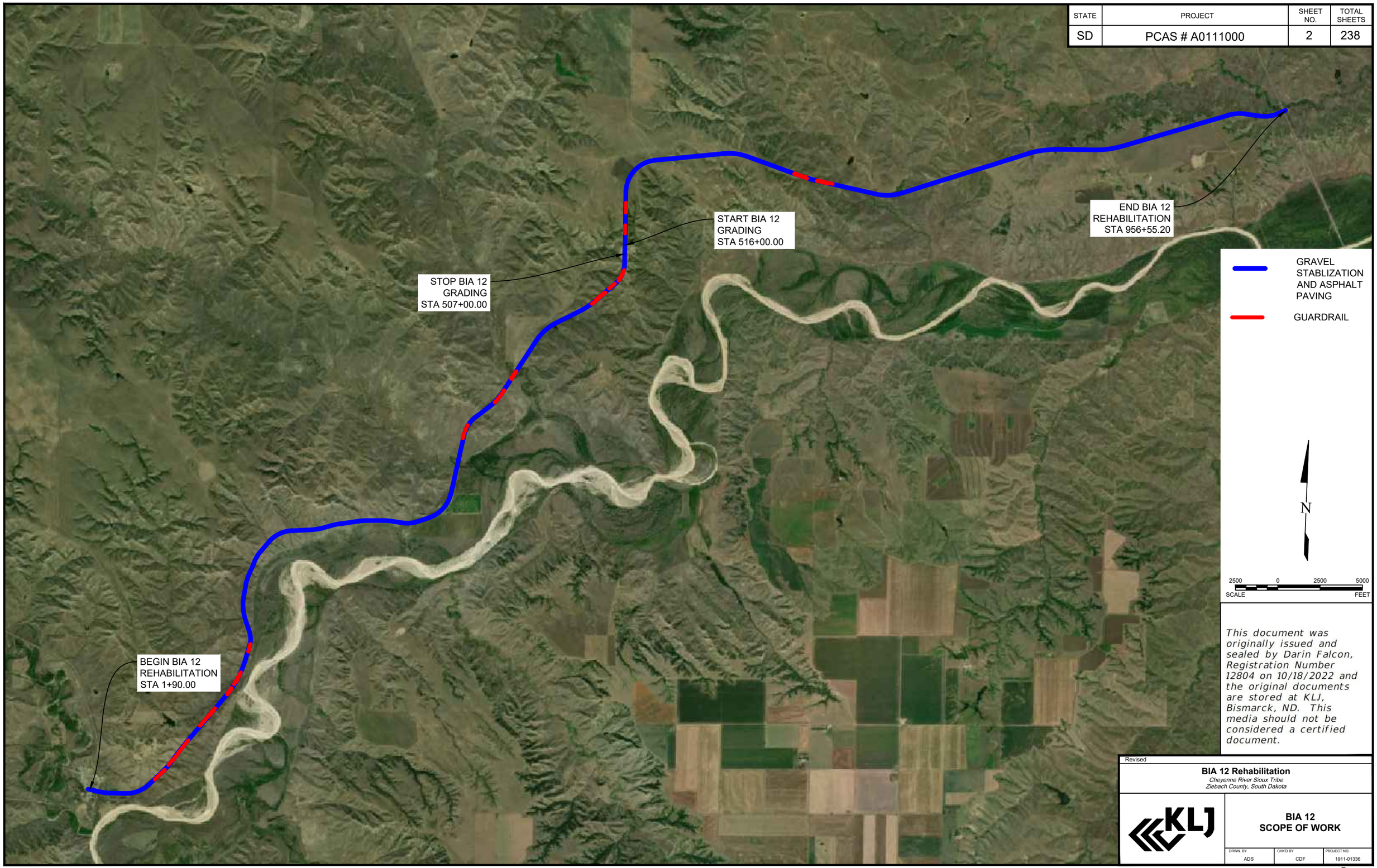
KLJ

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	2	238



GRAVEL STABLIZATION AND ASPHALT PAVING

GUARDRAIL

N

2500 0 2500 5000
SCALE FEET

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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

KLJ

BIA 12
SCOPE OF WORK

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	3	238

BID ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
009E0010	Mobilization	LS	1
009E1350	Restoration of Stockpile Site	LS	1
110E0130	Remove Traffic Sign	Each	5
110E0500	Remove Pipe Culvert	Ft	58.0
110E0510	Remove Pipe End Section	Each	4
110E7150	Remove Sign for Reset	Each	20
110E7510	Remove Pipe End Section for Reset	Each	3
120E0010	Unclassified Excavation	CuYd	92,660
120E0100	Unclassified Excavation, Digouts	CuYd	2,685
120E0600	Contractor Furnished Borrow Excavation	CuYd	18,271
230E0010	Placing Topsoil	CuYd	92,660
230E0020	Contractor Furnished Topsoil	CuYd	13,189
260E1010	Base Course	Ton	5,370
280E0010	Full Depth Reclamation & Stabilization	SqYd	276,085
320E0005	PG 58-34 Asphalt Binder	Ton	4,886.80
320E1050	Class E Asphalt Concrete	Ton	81,446.40
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	Mile	54.3
320E7040	Grind 6" Transverse Rumble Strip in Asphalt Concrete	Ft	442.00
330E0010	MC-70 Asphalt for Prime	Ton	558.4
330E0100	SS-1h or CSS-1h Asphalt for Tack	Ton	340
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	Ton	63
330E1000	Blotting Sand for Prime	Ton	30
360E0020	AE150S Asphalt for Surface Treatment	Ton	398
360E1020	Type 1B Cover Aggregate	Ton	3,185
450E4768	24" CMP 14 Gauge, Furnish	Ft	48.0
450E4770	24" CMP, Install	Ft	48.0
450E4778	30" CMP 14 Gauge, Furnish	Ft	34.0
450E4780	30" CMP, Install	Ft	34.0
450E5215	24" CMP Flared End, Furnish	Each	2

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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

BIA 12
ESTIMATE OF QUANTITIES

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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450E5215	24" CMP Flared End, Furnish	Each	2
450E5216	24" CMP Flared End, Install	Each	2
450E7029	24" High Density Polyethylene Pipe, Furnish	Ft	62.0
450E7030	24" High Density Polyethylene Pipe, Install	Ft	62.0
450E9001	Reset Pipe End Section	Each	3
630E0500	Type 1 MGS	Ft	14,560.0
630E1015	Straight Class A W Beam Guardrail With CRT Posts	Ft	62.5
630E1025	Curved Class A W Beam Guradrail With CRT Posts	Ft	75.0
630E1505	Type 2A Guardrail Transition	Each	8
630E2005	W Beam Guardrail to MGS Transition	Each	5
630E2018	MGS Mash Tangent Terminal	Each	49
630E2035	W Beam Guardrail Special Anchor Assembly	Each	5
632E1320	2 " X 2" Perforated Tube Post	Ft	148.0
632E2022	4" X 4" White Delineator Back to Back with 1.12 lb/ft Post	Each	716
632E2028	4" Tubular White Delineator with 1.12 lb/ft Post	Each	16
632E2220	Guardrail Delineator	Each	291
632E2510	Type 2 Object Marker Back to Back	Each	24
632E3205	Flat Aluminum sign, Nonremovable Copy Super/Very High Intensity	SqFt	159.8
632E3500	Reset Sign	Each	20
633E1010	Epoxy Pavement Marking Paint, White	Gal	995.8
633E1015	Epoxy Pavement Marking Paint, Yellow	Gal	806.28
634E0010	Flagging	Hour	1,120
634E0020	Pilot Car	Hour	560
634E0110	Traffic Control Signs	SqFt	307
634E0120	Traffic Control, Miscellaneous	LS	1
634E0630	Temporary Pavement Markings	Mile	72.4
730E0210	Type F Seed Mixture	Lb	638
732E0200	Fiber Mulching	Ton	37
734E0010	Erosion Control	LS	1
734E0042	Soil Stabilization Agent-Dirt Armor	Gal	4,982.40
734E0325	Surface Roughening	Acre	25

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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

BIA 12
ESTIMATE OF QUANTITIES

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	5	238

PROPOSED CENTERLINE COORDINATE DATA

LOCATION	STATION	NORTHING	EASTING
BP	1+00.00	285041.899	1577763.713
BEGIN REHAB	1+90.00	285020.495	1577851.130
PI	3+00.00	284994.330	1577957.973
PI	5+50.00	284937.759	1578201.489
PC	7+50.94	284890.964	1578396.906
PT	13+94.45	284806.476	1579033.698
PI	15+50.01	284802.000	1579189.186
PI	17+50.00	284797.860	1579389.137
PI	21+00.00	284788.919	1579739.022
PC	23+59.45	284784.372	1579998.436
PT	38+74.71	285322.628	1581373.906
PI	49+49.90	285996.949	1582078.373
PI	50+49.90	286135.617	1582222.495
PC	51+83.35	286229.291	1582317.540
PT	56+92.46	286613.135	1582651.231
PI	60+49.55	286899.862	1582864.075
PC	64+34.75	287210.331	1583092.076
PT	72+54.48	287853.293	1583600.285
PI	87+99.99	289031.061	1584601.023
PI	98+00.00	289792.392	1585249.397
PI	106+99.80	290476.694	1585833.665
PC	108+70.12	290607.331	1585942.944
PT	131+38.33	292586.454	1587020.423
PI	133+99.59	292836.005	1587097.752
PC	141+61.61	293564.905	1587319.961
PT	149+25.45	294315.901	1587304.553
PI	152+99.52	294668.945	1587180.885
PC	156+82.95	295032.488	1587059.010
PT	171+37.90	296468.390	1586957.707
PC	178+39.35	297158.179	1587085.082
PT	183+65.88	297660.816	1587238.086
PI	187+99.52	298058.802	1587410.299
PC	193+40.88	298556.107	1587624.213
PT	199+62.14	299081.614	1587951.178
PC	206+93.86	299637.984	1588426.431
PT	222+89.72	300316.615	1589821.408
PC	234+02.04	300367.176	1590932.570

PROPOSED CENTERLINE COORDINATE DATA (CONT.)

LOCATION	STATION	NORTHING	EASTING
PT	240+58.10	300468.482	1591579.486
PC	246+18.71	300614.167	1592120.829
PT	251+45.18	300720.864	1592636.070
PI	252+99.88	300743.293	1592789.133
PI	257+48.69	300805.258	1593233.648
PI	260+49.38	300848.036	1593531.278
PC	262+58.37	300876.992	1593738.254
PT	267+27.85	300911.106	1594206.144
PI	268+99.84	300912.235	1594378.135
PC	277+31.54	300912.345	1595209.831
PT	283+82.57	300868.569	1595758.536
PI	285+89.89	300819.803	1596061.960
PC	288+73.64	300774.887	1596342.138
PT	297+70.15	300850.759	1597226.484
PI	300+99.76	300957.608	1597538.295
PI	303+50.37	301039.596	1597775.116
PC	305+52.83	301107.183	1597965.965
PT	324+82.45	302486.572	1599198.522
PI	326+51.27	302651.022	1599236.687
PI	328+01.27	302797.356	1599269.647
PI	333+01.28	303285.673	1599377.124
PI	342+00.46	304163.690	1599571.052
PI	347+28.85	304679.462	1599685.854
PI	353+00.46	305237.529	1599809.528
PC	359+97.48	305918.446	1599958.508
PT	373+69.78	307049.887	1600683.432
PI	380+00.48	307429.847	1601186.827
PC	384+00.28	307671.427	1601505.391
PT	393+77.99	308381.965	1602170.143
PI	400+00.44	308901.842	1602512.431
PI	405+00.46	309321.032	1602785.014
PI	408+00.46	309571.389	1602950.307
PI	410+00.00	309739.061	1603058.491
PI	416+50.46	310282.841	1603415.425
PI	419+00.46	310492.908	1603550.975
PC	431+82.29	311564.795	1604253.930
PT	447+05.18	312570.939	1605374.108

PROPOSED CENTERLINE COORDINATE DATA (CONT.)

LOCATION	STATION	NORTHING	EASTING
PI	448+50.43	312636.870	1605503.535
PI	452+50.43	312816.308	1605861.025
PI	456+00.43	312972.435	1606174.278
PI	461+00.43	313196.475	1606621.274
PC	465+13.18	313382.576	1606989.679
PT	472+16.53	313771.433	1607573.752
PI	477+00.46	314085.769	1607941.688
PI	480+00.46	314282.291	1608168.361
PI	486+00.46	314672.878	1608623.817
PC	490+51.51	314967.579	1608965.291
PT	503+80.27	316148.172	1609467.897
PC	516+83.22	317447.563	1609487.178
PT	518+32.62	317596.658	1609495.948
PI	524+99.51	318263.482	1609505.494
PI	543+00.03	320063.774	1609533.932
PC	545+72.23	320335.937	1609538.767
PT	573+69.72	322214.664	1611273.313
PI	579+00.89	322266.386	1611801.960
PI	588+00.08	322351.551	1612697.114
PI	595+50.08	322424.517	1613443.557
PC	614+98.77	322612.855	1615383.118
PT	628+08.04	322449.803	1616671.326
PC	663+34.42	321245.433	1619985.669
PT	670+42.67	321045.416	1620664.613
PI	696+50.10	320465.095	1623206.642
PC	707+79.71	320212.542	1624307.659
PT	723+49.12	320274.816	1625857.427
PI	731+50.07	320515.947	1626621.214
PI	744+50.07	320904.379	1627861.829
PI	770+00.07	321665.005	1630295.746
PI	779+37.73	321942.900	1631191.278
PI	788+99.82	322230.078	1632109.511
PC	801+07.09	322592.524	1633261.092
PT	819+47.12	322858.823	1635073.922
PI	827+49.98	322848.141	1635876.704
PI	832+99.61	322838.891	1636426.255
PI	836+99.97	322830.27	1636826.523

PROPOSED CENTERLINE COORDINATE DATA (CONT.)

LOCATION	STATION	NORTHING	EASTING
PC	840+93.23	322825.423	1637219.759
PT	858+12.52	323057.157	1638917.034
PI	889+49.88	323935.348	1641928.973
PI	896+99.88	324144.396	1642649.250
PI	905+99.88	324396.498	1643513.221
PI	912+99.89	324589.597	1644186.066
PC	922+70.19	324864.463	1645116.621
PT	933+25.71	324942.659	1646161.279
PC	941+97.58	324823.239	1647024.931
PT	952+85.05	324972.466	1648088.129
END REHAB	956+55.68	325122.389	1648427.085
EP	957+54.84	325162.693	1648518.208

CONTROL TRAVERSE COORDINATE DATA

POINT #	NAME	NORTHING	EASTING	ELEVATION
1	CP*KLJ AC 1	323542.984	1649253.716	1820.037
2	CP*KLJ AC 2	286090.800	1582069.843	1890.768
3	CP*KLJ AC 3	322561.103	1616560.473	2051.122
4	CP*KLJ AC 4	307193.742	1600745.964	1840.995
5	CP*KLJ AC 5	295812.104	1586984.264	1776.458
6	CP*KLJ AC 6	324502.795	1644136.560	1926.903
7	CP*KLJ AC 7	300696.143	1596861.737	1691.938
8	CP*KLJ AC 8	321819.614	1630552.194	2003.111
9	CP*KLJ AC 9	315654.850	1609477.277	2009.764
400	NESEC*31-08-22 2.5"BC GLO1931	289689.786	1578425.500	1756.223

BASIS OF SURVEY

ALL CONTOURS, ELEVATION, AND COORDINATES FOR THE PROJECT ARE BASED ON NAD83 STATE PLANE COORDINATE SYSTEM, SOUTH DAKOTA NORTH ZONE AND NAVD-1988

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Revised

BIA 12 Rehabilitation

Cheyenne River Sioux Tribe
Ziebach County, South Dakota

BIA 12
BASIS OF SURVEY, HORIZONTAL ALIGNMENT & CONTROL POINT DATA

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	6	238

SPECIFICATIONS
CONFORM TO THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS & BRIDGES, 2015 EDITION AND REQUIRED PROVISIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS AS INCLUDED IN THE PROJECT MANUAL, OR AS OTHERWISE NOTED IN THESE PLANS.

COORDINATION OF WORK BY OTHERS
CONTRACTOR COORDINATION OF WORK BY OTHERS WILL NOT BE PAID SEPARATELY AND IS INCIDENTAL TO THE PROJECT.

ESTIMATED RATES AND UNIT WEIGHTS
SURFACING, SALVAGED ASPHALT AND GRANULAR BASE MIX ..... 1.5 TON/CU YD
SURFACE TREATMENT, FOG SEAL..... 0.1 GAL/SQ YD
SURFACE TREATMENT, AE150S ..... 0.35 GAL/SQ YD
SURFACING, COVER AGGREGATE..... 25 LB/SQ YD
ASPHALT DENSITY, STABILIZING AGENT..... 2 GALS/33 CU YD OF EMBANKMENT

PROJECT LIMITS
THE PROJECT LIMITS INCLUDE ALL AREAS INSIDE THE CLEARING AND GRADING LIMITS WHICH ARE WITHIN THE RIGHT-OF-WAY AND TEMPORARY CONSTRUCTION EASEMENTS.

CONSTRUCTION SURVEYING AND STAKING
THE ENGINEER WILL PROVIDE STANDARD CONSTRUCTION SURVEYING AND STAKING FOR THE PROJECT. THE CONTRACTOR SHALL INCLUDE STAKING ACTIVITIES IN THE CONSTRUCTION SCHEDULE AND COORDINATE WORK WITH THE ENGINEER. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPLACING CONSTRUCTION STAKES WHICH WERE UNNECESSARILY DAMAGED, DESTROYED, OR REMOVED BY THE CONTRACTOR'S OPERATIONS.

THE CONTRACTOR SHALL PROVIDE AT LEAST 48 HOUR ADVANCE NOTICE WITH ANY STAKING REQUEST.

EXISTING ROAD CONDITIONS AND TRAFFIC VOLUMES
BIA 12 - SURFACE CONDITION: GRAVEL
TRAFFIC VOLUME: ADT <100

MATERIALS OR LAND USE OUTSIDE OF PROJECT LIMITS
THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, CLEARANCES, AND AGREEMENTS FROM THE CHEYENNE RIVER SIOUX TRIBE, US ARMY CORP OF ENGINEERS, COUNTY, STATE, AND ANY OTHER REGULATORY AGENCY, OR PRIVATE ENTITY, AS APPLICABLE FOR ALL STAGING AREAS, PITS, STOCKPILE SITES, DISPOSAL SITES OR ANY OTHER LOCATION OUTSIDE OF THE PROJECT LIMITS USED FOR THE CONTRACTOR'S CONVENIENCE.

ANY LAND USES WITHIN THE BOUNDARIES OF THE CHEYENNE RIVER SIOUX RESERVATION WILL REQUIRE THPO SURVEY AND CLEARANCE BEFORE ANY OCCUPATION, EXCAVATION, OR MATERIAL IS AUTHORIZED FOR USE ON THE PROJECT.

NO PAYMENT WILL BE MADE FOR THIS WORK AS IT WILL BE INCIDENTAL TO THE MOBILIZATION ITEM. COPIES OF ALL PERMITS, CLEARANCES, AND AGREEMENTS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO USE.

HAUL ROUTE
THE ENGINEER SHALL APPROVE THE HAUL ROUTE PROPOSED BY THE CONTRACTOR BEFORE INSPECTIONS OR AGREEMENTS ARE MADE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY HAUL ROUTE AGREEMENTS AND PERMITS FROM LOCAL JURISDICTIONS AND SUBMIT TO ENGINEER PRIOR TO USE. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ANY DAMAGED AREAS CAUSED BY HAULING. ALL AREAS WILL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND ROAD OWNER. ALL COSTS SHALL BE INCIDENTAL TO MAINTENANCE OF TRAFFIC DIVERSION.

SEQUENCE OF OPERATIONS
THE CONTRACTOR WILL SUBMIT A SEQUENCE OF OPERATIONS FOR APPROVAL TWO WEEKS PRIOR TO THE PRECONSTRUCTION MEETING. APPROVAL OF AN ALTERNATE SEQUENCE OF OPERATIONS WILL ONLY BE ALLOWED WHEN THE PROPOSED CHANGES MEET WITH THE DEPARTMENT'S INTENT FOR TRAFFIC CONTROL AND SEQUENCING OF THE WORK. AN ALTERNATE SEQUENCE WILL BE SUBMITTED FOR REVIEW A MINIMUM OF ONE WEEK PRIOR TO POTENTIAL IMPLEMENTATION.

GENERAL TRAFFIC CONTROL
EXISTING GUIDE, ROUTE, INFORMATIONAL LOGO, REGULATORY, AND WARNING SIGNS WILL BE TEMPORARILY RESET AND MAINTAINED DURING CONSTRUCTION. REMOVING, RELOCATING, COVERING, SALVAGING, AND RESETTING OF EXISTING TRAFFIC CONTROL DEVICES, INCLUDING DELINEATION, WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. COST FOR THIS WORK WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICES FOR THE VARIOUS ITEMS UNLESS OTHERWISE SPECIFIED IN THE PLANS. ANY DELINEATORS AND SIGNS DAMAGED OR LOST WILL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE CLIENT.

ALL TEMPORARY TRAFFIC CONTROL SIGN LOCATIONS WILL BE SET IN THE FIELD BY THE CONTRACTOR AND VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION.

IF THERE IS A DISCREPANCY BETWEEN THE TRAFFIC CONTROL PLANS, STANDARD PLATES, AND THE MUTCD, WHICHEVER IS MORE STRINGENT WILL BE USED, AS DETERMINED BY THE ENGINEER.

TRAFFIC CONTROL SIGNS, AS SHOWN IN THE ESTIMATE OF QUANTITIES, ARE ESTIMATES.

ALL HAUL TRUCKS WILL BE EQUIPPED WITH AN ADDITIONAL FLASHING AMBER LIGHT THAT IS VISIBLE FROM THE BACKSIDE OF THE HAUL TRUCK. THE COSTS FOR THE FLASHING AMBER LIGHTS WILL BE INCIDENTAL TO THE VARIOUS RELATED CONTRACT ITEMS.

THE CONTRACTOR WILL NOTIFY BUSINESSES/HOMEOWNERS A MINIMUM OF TWO WEEKS PRIOR TO CONSTRUCTION TO INFORM THEM OF UPCOMING CONSTRUCTION AND AGAIN A MINIMUM OF 48 HOURS PRIOR TO ANY BLOCKED ACCESS TO MAKE APPROPRIATE ARRANGEMENTS.

TRAFFIC CONTROL SIGNS
SUFFICIENT TRAFFIC CONTROL DEVICES HAVE BEEN INCLUDED IN THESE PLANS TO SIGN TWO WORKSPACES. IF THE CONTRACTOR ELECTS TO WORK ON ADDITIONAL LOCATIONS SIMULTANEOUSLY, THE COST FOR ADDITIONAL TRAFFIC CONTROL DEVICES WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR “TRAFFIC CONTROL SIGNS”.

NO ADDITIONAL PAYMENT WILL BE MADE FOR DUPLICATE TEMPORARY SIGNAGE. ONLY THOSE SIGNS WHICH MAY BECOME NECESSARY BUT ARE NOT REPRESENTED IN THE PLANS MAY BE PAID THROUGH A CHANGE ORDER.

SUBMITTALS
THE FOLLOWING DOCUMENTS SHALL BE SUBMITTED BY THE CONTRACTOR (DOCUMENTATION REQUIREMENTS ELSEWHERE IN THE CONTRACT ARE NOT WAIVED IF LISTED BELOW):

1. CONSTRUCTION SCHEDULE
2. MATERIALS CERTIFICATIONS
3. SHOP DRAWINGS

GENERAL
AT COMPLETION OF THE PROJECT, ALL FINISH BACKFILL, FINISH SHAPING, AND FINISH GRADING WITHIN THE PROJECT SHALL CREATE A FINISHED PRODUCT OF QUALITY (BOTH IN USAGE AND APPEARANCE), SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER, AND SHALL BE INCIDENTAL TO CONSTRUCTION WITH NO SPECIFIC PAY ITEM.

THE GENERAL CONTRACTOR SHALL HAVE A SUPERINTENDENT OR FOREMAN ON SITE AT ALL TIMES DURING CONSTRUCTION FOR GENERAL DIRECTION AND SUPERVISION. A SUBCONTRACTOR CANNOT REPRESENT THE GENERAL CONTRACTOR.

NO WORK WILL BE ALLOWED DURING THE TIMES OF DARKNESS, UNLESS THE ENGINEER APPROVED ADDITIONAL HOURS. HOURS OF DARKNESS ARE DEFINED AS ONE-HALF HOUR AFTER SUNSET UNTIL ONE-HALF HOUR BEFORE SUNRISE.

A STAGING SITE SHOULD BE ACQUIRED BY THE CONTRACTOR AND WILL BE THE CONTRACTOR'S RESPONSIBILITY.

ENGINEER NOTIFICATION
THE CONTRACTOR IS REQUIRED TO NOTIFY THE AREA ENGINEER AT LEAST 10 DAYS PRIOR TO BEGINNING WORK.

EXISTING SYMBOLS

- CONTROL POINT
- POWER POLE
- ELECTRICAL METER
- TREE/ SHRUB
- SIGN
- SIGN, 2 POST
- WATER METER
- TELEPHONE MANHOLE
- WATER WELL
- BUILDING
- CULVERT
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- PROPERTY LINE
- RIGHT-OF-WAY
- EDGE OF GRAVEL ROAD
- TELEPHONE LINE
- TELEPHONE / FIBER OPTIC LINE
- ELECTRIC UNDERGROUND LINES
- ELECTRIC OVERHEAD LINES
- FENCE - BARBED WIRE
- CONTOUR - INDEX (3410)
- CONTOUR - INTERMEDIATE

PROPOSED SYMBOLS

- RIGHT-OF-WAY
- TEMPORARY CONSTRUCTION EASEMENT
- FENCE - TYPE 2 RIGHT-OF-WAY
- FENCE - TYPE 6S RIGHT-OF-WAY
- GRADING LIMITS
- EROSION CONTROL WATTLE
- CONTOUR - INDEX (3410)
- CONTOUR - INTERMEDIATE
- FENCE - REMOVE
- REMOVE TREES / VEGETATION
- SIGN

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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

BIA 12
GENERAL NOTES

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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CONTRACTOR FURNISHED BORROW EXCAVATION

THE CONTRACTOR WILL PROVIDE A SUITABLE SITE FOR THE CONTRACTOR FURNISHED BORROW EXCAVATION MATERIAL. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND CLEARANCES FOR THE BORROW SITE.

THE BORROW MATERIAL WILL BE APPROVED BY THE ENGINEER. THE PLANS QUANTITY FOR "CONTRACTOR FURNISHED BORROW EXCAVATION" AS SHOWN IN THE ESTIMATE OF QUANTITIES WILL BE THE BASIS OF PAYMENT FOR THIS ITEM.

RESTORATION OF THE CONTRACTOR FURNISHED BORROW EXCAVATION SITE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ANY BORROW SOURCES WITHIN THE BOUNDARIES OF THE CHEYENNE RIVER SIOUX RESERVATION WILL REQUIRE THPO SURVEY AND CLEARANCE BEFORE ANY MATERIAL IS AUTHORIZED FOR USE ON THE PROJECT.

ALL LANDOWNER AGREEMENTS FOR CONTRACTOR BORROW SOURCES SHALL BE PROVIDED TO THE ENGINEER TO BECOME PART OF THE PROJECT RECORD.

CHEYENNE RIVER SIOUX (CRST) THPO REQUIRES A TRIBAL CULTURAL SPECIALIST (TCS) ON SITE FOR ALL CLEARING AND EXCAVATION EARTHWORK OPERATIONS. TCS PAY, PER DIEM, AND ANY OTHER EXPENSES ARE A RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCIDENTAL TO BORROW AND EXCAVATION BID ITEMS. CONTACT CRST THPO DIRECTLY TO DETERMINE WHICH, IF ANY, EARTHWORK OR GRAVELING ACTIVITIES MAY BE EXEMPT FROM TCS REQUIREMENTS.

UNCLASSIFIED EXCAVATION

GRADING - ROADWAY SURFACE		
STATION	CUT (CY)	FILL (CY)
1+90.00 -173+05.90, LT & RT	11,656.00	3,466.00
173+05.90 - 334+67.64, LT & RT	245.00	97.00
334+67.64 - 417+72.59, LT & RT	6,192.00	2,191.00
417+72.59 - 457+00.00, LT & RT	107.00	23.00
457+00.00 - 507+00.00, LT & RT	6,046.00	1,826.00
516+00.00 - 543+80.00, LT & RT		
543+80.00 - 610+00.00, LT & RT	101.00	37.00
610+00.00 - 635+00.00, LT & RT	1715.00	260.00
635+00.00 - 657+09.82, LT & RT	58.00	12.00
657+09.82 - 684+51.12, LT & RT	1556.00	927.00
684+51.12 - 956+55.68, LT & RT	722.00	154.00
TOTAL:	**19,643.00 CUT**	

GRADING - CATCH LIMITS		
STATION	CUT (CY)	FILL (CY)
1+90.00 -173+05.90, LT & RT	215.00	10743.00
334+67.64 - 417+72.59, LT & RT	87.00	14,626.00
457+00.00 - 507+00.00, LT & RT	66.00	6,329.00
516+00.00 - 543+80.00, LT & RT		
610+00.00 - 635+00.00, LT & RT	11.00	412.00
657+09.82 - 684+51.12, LT & RT	8.00	1,454.00
TOTAL:	**33,177.00 FILL**	

NOTE: STATION RANGES INCLUDED IN THE TABLE ABOVE ALSO APPLIES TO LOCATIONS OF SURFACE ROUGHENING, PLACING OF TOPSOIL, SEEDING, MULCHING, AND FERTILIZING.

GRADING OPERATIONS

TOPSOIL SHALL BE REMOVED TO A 6" DEPTH AND PUSHED TO THE EDGE OF THE WORK AREA. TOPSOIL REMOVAL OF REGRADED AREAS IS INCLUDED IN THE QUANTITY FOR UNCLASSIFIED EXCAVATION.

ROADWAY AND EMBANKMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SDDOT SECTION 120 (AND THE GEOTECHNICAL REPORT INCLUDED IN THE PROJECT MANUAL).

IN EMBANKMENTS LESS THAN 2 FEET, THE CONTRACTOR SHALL SCARIFY THE EXISTING SUBGRADE TO 8 INCHES BELOW THE EXISTING SUBGRADE SURFACE AND RECOMPACT.

TRAFFIC DIVERSION

CONTRACTOR WILL MAINTAIN DRIVEABLE CONDITIONS OF ROADWAY SURFACE AT ALL TIMES.

PERMANENT VEGETATION ESTABLISHMENT

MYCORRHIZAL INOCULUM

MYCORRHIZAL INOCULUM SHALL CONSIST OF MYCORRHIZAL FUNGI SPORES AND MYCORRHIZAL FUNGI-INFECTED ROOT FRAGMENTS IN A SOLID CARRIER. THE CARRIER MAY INCLUDE ORGANIC MATERIALS, CALCINATED CLAY, OR OTHER MATERIALS CONSISTENT WITH APPLICATION AND GOOD PLANT GROWTH. THE SUPPLIER SHALL PROVIDE CERTIFICATION OF THE FUNGAL SPECIES CLAIMED AND THE LIVE PROPAGULE COUNT. THE INOCULUM SHALL INCLUDE THE FOLLOWING

FUNGAL SPECIES:

GLOMUS INTRARADICES	25%
GLOMUS AGGREGATU	25%
GLOMUS MOSSEAE	25%
GLOMUS ETUNICATUM	25%

ALL SEED SHALL BE INOCULATED WITH A MINIMUM OF 100,000 LIVE PROPAGULES OF MYCORRHIZAL FUNGI PER ACRE. ALL COSTS OF INOCULATING THE SEED SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER POUND FOR THE CORRESPONDING PERMANENT SEED MIXTURE.

SEEDING

TYPE F PERMANENT SEED MIXTURE SHALL CONSIST OF THE FOLLOWING:

GRASS SPECIES	VARIETY	PURE LIVE SEED (PLS) POUNDS/ACRE)
WESTERN WHEATGRASS	ARRIBA, FLINTLOCK, RODAN, ROSANA	7
GREEN NEEDLEGRASS	LODORM, AC MALLARD ECOVAR	4
SIDEOATS GRAMA	BUTTE, PIERRE	3
BLUE GRAMA	BAD RIVER	2
OATS OR SPRING WHEAT; APRIL THROUGH MAY; WINTER WHEAT: AUGUST THROUGH NOVEMBER	**TOTAL =**	10 **26**

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CONTRACTOR FURNISHED TOPSOIL

IT IS ANTICIPATED THAT A LARGER VOLUME OF TOPSOIL WILL BE NEEDED FOR THE NEW GRADE THAN CAN BE SALVAGED FROM THE EXISTING GRADE. THE CONTRACTOR WILL BE REQUIRED TO FURNISH AND PLACE 4 INCHES OF TOPSOIL ON ROADWAY INSLOPES AND AREAS AS DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

CONTRACTOR FURNISHED TOPSOIL SHALL BE FREE FROM CLAY LUMPS, STONES, COARSE GRAVEL, OR SIMILAR OBJECTS LARGER THAN 1/2 INCH IN DIAMETER. BRUSH, STUMPS, ROOTS, WOOD, OBJECTIONABLE WEEDS, LITTER, OR ANY OTHER MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH WILL NOT BE ALLOWED. ORGANIC MATERIAL SHALL BE DECOMPOSED.

ALL COSTS TO FURNISH AND PLACE THE CONTRACTOR FURNISHED TOPSOIL SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER CUBIC YARD FOR “CONTRACTOR FURNISHED TOPSOIL”.

FIBER MULCHING

FIBER MULCH WILL BE APPLIED IN A SEPARATE OPERATION FOLLOWING PERMANENT SEEDING. AN ADDITIONAL 2% BY WEIGHT OF TACKIFIER WILL BE ADDED TO THE FIBER MULCH PRODUCT SELECTED FROM THE APPROVED PRODUCT LIST. IF THE PRODUCT SELECTED HAS GUAR GUM TACKIFIER INCLUDED, THEN THE ADDITIONAL 2% OF TACKIFIER WILL BE GUAR GUM. IF THE PRODUCT SELECTED HAS SYNTHETIC TACKIFIER INCLUDED, THEN THE ADDITIONAL 2% OF TACKIFIER WILL BE SYNTHETIC.

FIBER MULCH WILL BE APPLIED AT THE RATE OF 3,000 POUNDS PER ACRE.

THE CONTRACTOR WILL ALLOW THE FIBER MULCH TO CURE A MINIMUM OF 18 HOURS PRIOR TO WATERING OR ANY STORM EVENT TO ENSURE PROPER COHESION BETWEEN THE SOIL AND FIBER PARTICLES.

ALL COSTS FOR THE ADDITIONAL TACKIFIER ADDED TO THE FIBER MULCH INCLUDING LABOR, EQUIPMENT, AND MATERIALS WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER TON FOR “FIBER MULCHING”.

THE FIBER MULCH PROVIDED WILL BE FROM THE APPROVED PRODUCT LIST. THE APPROVED PRODUCT LIST FOR FIBER MULCH MAY BE VIEWED AT THE FOLLOWING INTERNET SITE:

HTTP://APPS.SD.GOV/HC60APPROVEDPRODUCTS/MAIN.ASPX

SURFACE ROUGHENING

SURFACE ROUGHENING WILL BE DONE AFTER TOPSOIL PLACEMENT AND BEFORE PERMANENT SEEDING, FERTILIZING, AND MULCHING APPLICATIONS. REFER TO STANDARD PLATE 734.25 FOR DETAILS.

UNCLASSIFIED EXCAVATION, DIGOUTS

THE LOCATIONS AND EXTENT OF DIGOUT AREAS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE BACKFILLING MATERIAL FOR THE DIGOUTS WILL BE BASE COURSE. THE DEPTH OF ASPHALT WILL MATCH THE IN-PLACE THICKNESS.

INCLUDED IN THE ESTIMATE OF QUANTITIES ARE 150 CUBIC YARDS OF UNCLASSIFIED EXCAVATION PER MILE, DIGOUTS.

INCLUDED IN THE ESTIMATE OF QUANTITIES ARE 300 TONS OF BASE COURSE PER MILE FOR BACKFILL OF UNCLASSIFIED EXCAVATION, DIGOUTS.

THE DIGOUTS WILL BE EXTENDED THROUGH THE SHOULDER AND BACKFILLED WITH GRANULAR MATERIAL THAT WILL DAYLIGHT TO THE INSLOPE TO ALLOW WATER TO ESCAPE THE SUBSURFACE.

FULL DEPTH RECLAMATION (FDR) & STABILIZATION

THE TOP 9” OF EXISTING GRANULAR BASE MATERIAL AND/OR SUBGRADE MATERIAL WILL BE PULVERIZED, PROCESSED IN PLACE, AND BLENDED WITH A CHEMICAL SOIL STABILIZING AGENT. CLAY BORROW MATERIAL AND HYDRATED LIME WILL BE BLENDED AS NEEDED.

“CONTRACTOR FURNISHED BORROW EXCAVATION - CLAY” MAY BE NEEDED FOR BLENDING ROAD BASE MATERIAL. THIS QUANTITY WAS ESTIMATED AT THE RATE OF 0.4 CUYD OF CLAY PER CUYD OF STABILIZED MATERIAL.

“HYDRATED LIME” MAY BE NEEDED FOR BLENDING ROAD BASE MATERIAL. THIS QUANTITY WAS ESTIMATED AT THE RATE OF .04 TONS OF HYDRATED LIME PER CUYD OF STABILIZED ROAD MATERIAL.

COMPACT STABILIZED ROAD BASE IMMEDIATELY AFTER FDR TO 95% STANDARD PROCTOR. STABILIZED ROAD BASE SECTION SHALL BE KEPT FREE OF TRAFFIC FOR A 24-HOUR CURING PERIOD.

SOIL STABILIZER

THE SOIL STABILIZING AGENT WILL BE SA-44/LS-40 CHEMICAL SOIL/ROAD BASE STABILIZER OF APPROVED EQUAL. DILUTE THE SOIL STABILIZING AGENT AT 1:100 RATIO FOR APPLICATION TO RECYLED AND BLENDED ROAD BASE. THE APPLICATION RATE WILL BE 200 GALLONS OF DILUTED SOLUTION PER 33 CUYD OF RECYLED AND BLENDED ROAD BASE MATERIAL.

FOR ESTIMATING PURPOSES, 2 GALLONS OF CONCENTRATED STABILIZING AGENT PER 33 CUYD OF RECYCLED AND BLENDED ROAD BASE IS USED.

ALL COSTS FOR FURNISHING, DELIVERING, AND STORING THE SOIL STABILIZER WILL BE INCLUDED IN THE BID ITEM FOR "SOIL STABILIZING AGENT-DIRT ARMOR". COSTS FOR DILUTING AND APPLYING THE SOIL STABILIZER WILL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR “FULL DEPTH RECLAMATION”

ASPHALT SURFACT TREATMENT

ASPHALT FOR SURFACE TREATMENT WILL BE AE150S WILL BE APPLIED 24 FEET WIDE AT THE RATE OF 0.35 GALLONS PER SQUARE YARD AND 8.2 LBS PER GALLON.

COVER AGGREGATE WILL BE APPLIED 24 FEET WIDE AT THE RATE OF 25 LBS PER SQUARE YARD.

SURFACE PREPARATION

THE LOCATIONS PROVIDED ON THE TYPICAL SECTIONS FOR ASPHALT SURFACE TREATMENT, IN PLACE, REPRESENT THE LOCATIONS WHERE AN ASPHALT SURFACE TREATMENT IS ANTICIPATED TO BE IN PLACE AT THE TIME OF CONSTRUCTION. THE CONTRACTOR IS ADVISED THAT LOCATIONS AND DIMENSIONS OF ACTUAL ASPHALT SURFACE TREATMENT, IN PLACE, MAY VARY FROM THAT GIVEN ON THE TYPICAL SECTIONS. THERE WILL BE NO INCREASE IN THE PAYMENT FOR SURFACE PREPARATION BASED ON THE ACTUAL SURFACE TREATMENT IN PLACE AT THE TIME OF CONSTRUCTION.

QUANTITIES MC-70 ASPHALT FOR PRIME, AND BLOTTING SAND FOR PRIME HAVE BEEN PROVIDED FOR THE ENTIRE LENGTH OF THE ASPHALT SURFACING PROJECT. ACTUAL LIMITS TO RECEIVE SURFACE PREPARATION, MC-70 ASPHALT FOR PRIME, AND BLOTTING SAND FOR PRIME AHEAD OF CLASS E HOT MIXED ASPHALT CONCRETE PLACEMENT WILL BE LIMITED TO PARTICULAR PROJECT CONDITIONS AND WILL BE SUBJECT TO APPROVAL BY THE ENGINEER.

IN NO CASE WILL SURFACE PREPARATION OPERATIONS AHEAD OF CLASS E HOT MIXED ASPHALT CONCRETE PLACEMENT OPERATIONS EXCEED FOURTEEN CALENDAR DAYS.

SS-1h ASPHALT FOR TACK SHALL BE APPLIED AT THE RATE OF 0.1 GALLONS PER SQUARE YARD BEFORE THE PLACEMENT OF EACH LIFT OF ASPHALT. ASPHALT FOR TACK SHALL BE APPLIED FOR THE ENTIRE WIDTH OF THE COMING ASPHALT LIFT.

CLASS E ASPHALT CONCRETE

MINERAL AGGREGATE FOR CLASS E ASPHALT CONCRETE WILL CONFORM TO THE REQUIREMENTS FOR CLASS E, TYPE 1.

QUALITY ASSURANCE TESTING OF THE ASPHALT WILL BE DONE BY THE ENGINEER, WHERE COMPACTION CORES (4” DIA. MIN.) ARE TAKEN, CONTRACTOR SHALL REPAIR THE HOLE(S) TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH THE COMPACTION CORES WILL BE INCIDENTAL TO THE BID ITEM FOR "CLASS E ASPHALT CONCRETE'. ANY QUALITY ASSURANCE TESTING BY THE CONTRACTOR TO IN THEIR OWN INTEREST OR IN THE EVENT OF A DISPUTE OVER FAILING TEST RESULTS SHALL BE INCIDENTAL TO THE BID ITEM FOR "CLASS E ASPHALT CONCRETE".

ALL OTHER REQUIREMENTS FOR CLASS E WILL APPLY.

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FOG SEAL

THE FOG SEAL WILL BE PLACED FOLLOWING THE COMPLETION OF THE ASPHALT SURFACE TREATMENT. PRIOR TO THE APPLICATION OF THE FOG SEAL, THE CONTRACTOR WILL BE REQUIRED TO BROOM THE ASPHALT SURFACE TREATMENT. A CSS-1H OR SS-1H EMULSION WILL BE USED FOR THE FOG SEAL APPLICATION. A WATER-TO-EMULSION RATE OF 1:1 SHOULD BE USED FOR THE FOG SEAL APPLICATION.

THE CONTRACTOR WILL FOG SEAL THE ENTIRE ASPHALT SURFACE TREATMENT SURFACE INCLUDING THE SLUFF.

THE CONTRACTOR WILL PLAN THE FOG SEAL OPERATION TO ALLOW ADEQUATE CURE TIME FOR THE FOG SEAL AND TO MINIMIZE/ELIMINATE THE NEED TO APPLY SAND FOR FOG SEAL.

IF ADEQUATE CURE TIME FOR THE FOG SEAL WILL NOT BE AVAILABLE TO FACILITATE TRAFFIC, THE CONTRACTOR WILL BE ALLOWED TO PLACE A MINIMUM SUFFICIENT AMOUNT OF BLOTTING SAND ON THE FOG SEAL TO ALLOW TRAFFIC TO CROSS THE UNCURED PORTION OF THE FOG SEAL, AS PERMITTED BY THE ENGINEER. SAND FOR FOG SEAL WILL BE INCIDENTAL TO THE BID ITEM FOR "SS-1h OR CSS-1h ASPHALT FOR FOG SEAL".

GRIND RUMBLE STRIPS IN ASPHALT CONCRETE

ASPHALT CONCRETE RUMBLE STRIPES AND STRIPS WILL BE CONSTRUCTED ON THE SHOULDERS AND CENTERLINE. RUMBLE STRIPS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER MILE FOR GRIND 8” RUMBLE STRIP OR STRIPE IN ASPHALT CONCRETE. IT IS ESTIMATED THAT 36.2 MILES OF ASPHALT CONCRETE RUMBLE STRIPES WILL BE REQUIRED AND 18.1 MILES OF CENTERLINE RUMBLESTRIP WILL BE NEEDED.

RUMBLE STRIP INSTALLATION WILL BE COMPLETED PRIOR TO APPLICATION OF THE FLUSH SEAL AND PERMANENT PAVEMENT MARKINGS. IN THE EVENT THE FLUSH SEAL IS ELIMINATED FROM THE CONTRACT, THE CONTRACTOR WILL STILL BE REQUIRED TO APPLY A FLUSH SEAL TO THE NEWLY INSTALLED 8” RUMBLE STRIPS/STRIPES AT A WIDTH OF 1.5' AND AT THE SAME RATE AS SPECIFIED IN THIS PLAN SET. NO ADJUSTMENT IN PAYMENT WILL BE MADE AND SS-1H OR CSS-1H ASPHALT FOR FLUSH SEAL WILL BE PAID AT THE CONTRACT UNIT PRICE PER TON.

GRIND TRANSVERSE RUMBLE STRIPS IN ASPHALT CONCRETE

ADVANCE INTERSECTION WARNING TRANSVERSE ASPHALT CONCRETE RUMBLE STRIPS WILL BE CONSTRUCTED ON THE MAINLINE PAVEMENT, AS DETAILED IN THE PLAN SET. SINUSOIDAL TRANSVERSE RUMBLE STRIPS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER MILE FOR GRIND SINUSOIDAL TRANSVERSE RUMBLE STRIP IN ASPHALT CONCRETE PAVEMENT. IT IS ESTIMATED THAT 357 FEET OF ASPHALT CONCRETE TRANSVERSE RUMBLE STRIPS WILL BE REQUIRED.

TRANSVERSE RUMBLE STRIPS WILL BE COMPLETED PRIOR TO APPLICATION OF THE FOG SEAL AND PERMANENT PAVEMENT MARKINGS. IN THE EVENT THE FOG SEAL IS ELIMINATED FROM THE CONTRACT, THE CONTRACTOR WILL STILL BE REQUIRED TO APPLY A FOG SEAL TO THE NEWLY INSTALLED SINUSOIDAL TRANSVERSE RUMBLE STRIPS AT A WIDTH OF 1.5' AND AT THE SAME RATE AS SPECIFIED IN THIS PLAN SET. NO ADJUSTMENT IN PAYMENT WILL BE MADE AND SS-1H OR CSS-1H ASPHALT FOR FOG SEAL WILL BE PAID AT THE CONTRACT UNIT PRICE PER TON.

TEMPORARY PAVEMENT MARKINGS

TEMPORARY MARKING PAINT SHALL BE APPLIED AS A DOUBLE 4" YELLOW STRIPS OR FLEXIBLE VERTICAL MARKERS THE ENTIRE LENGTH OF THE PROJECT WHERE A SURFACE IS LEFT OPEN TO TRAFFIC FOR MORE THAN 24 HOURS. THE QUANTITY PROVIDED IN THE BID TABLE INCLUDES TEMPORARY PAVEMENT MARKINGS PAINTED OVER THE PRIMED SURFACE AND THE FIRST TWO LIFTS OF ASPHALT, AND FLEXIBLE VERTICAL MARKERS ON TOP OF THE FINAL LIFT OF ASPHALT. PAINTED CENTERLINE MARKINGS MAY BE OFFSET FROM CENTERLINE BY NO MORE THAN 12" SO AS NOT TO BE COVERED BY THE FIRST LANE OF ASPHALT LIFT. NO ADDITIONAL QUANTITIES WILL BE PAID FOR THIS BID ITEM.

TEMPORARY TRAFFIC CONTROL, MISCELLANEOUS

PAYMENT UNDER THE LUMP SUM ITEM FOR "TEMPORARY TRAFFIC CONTROL, MISCELLANEOUS" WILL PROVIDE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL, MAINTAIN, AND REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES SUCH AS GRABBER CONES, CANDLESTICKS, AND REFLECTORIZED DRUMS.

PERMANENT PAVEMENT MARKING PAINT

THE CONTRACTOR WILL BE REQUIRED TO PAINT ALL PAVEMENT MARKINGS INCLUDING CENTERLINE AND EDGE LINES.

ACTUAL STRIPING FOR PASSING/NO PASSING ZONES SHOULD BE DETERMINED BY FIELD VERIFIED PROCEDURES.

EPOXY PAVEMENT MARKING PAINT

ALL MATERIALS WILL BE APPLIED AS PER MANUFACTURER'S RECOMMENDATIONS. EPOXY PAVEMENT MARKING PAINT WILL CONFORM TO THE SUPPLEMENTAL SPECIFICATIONS FOR SECTION 980.1 B.

RATES OF MATERIALS FOR EPOXY PAVEMENT MARKING PAINT

SOLID 4” LINE = 27.8 GALS/MILE

DASHED 4” LINE = 7.6 GAL/MILE

ALL COST FOR MATERIALS, LABOR AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL THE PAVEMENT MARKINGS WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE RESPECTIVE BIDITEMS.

NEW PERMANENT SIGNING

ALL SIGNS WILL BE MANUFACTURED IN ACCORDANCE WITH THE SHEETING MANUFACTURER'S RECOMMENDATIONS UTILIZING A MATCHED COMPONENT SYSTEM, INCLUDING INKS, ELECTRONIC CUTTABLE FILMS, AND PROTECTIVE OVERLAY FILMS. DIGITALLY PRINTED SIGNS WILL NOT BE ACCEPTED.

ALL FLAT ALUMINUM SIGNS, NONREMOVABLE COPY SUPER/VERY HIGH INTENSITY WILL HAVE SHEETING IN CONFORMANCE WITH THE REQUIREMENTS OF ASTM D4956 TYPE XI.

ALUMINUM U-CHANNEL STIFFENERS WILL BE USED ON ALL SIGNS 36 INCHES OR GREATER IN WIDTH AND WILL CONFORM TO ASTM B221 ALLOY 6063-T6 OR 6061-T6. THE U-CHANNEL WILL BE 2 INCHES IN WIDTH AND FREE OF HOLES. THE U-CHANNEL STIFFENERS WILL ALSO BE USED TO CONNECT VARIOUS SIGNS TOGETHER SO THAT AN ENTIRE SIGN ASSEMBLY CAN BE ERECTED ON A SINGLE INSTALLATION.

STIFFENERS MAY BE FASTENED TO SIGNS BY USE OF 1/4-INCH DIAMETER DRIVE RIVETS. REFER TO THE BREAKAWAY SIGN SUPPORTS DIAGRAM FOR TYPICAL SIGN AND STIFFENER DETAILS.

THE BRACKETS FOR THE CHEVRON, AS PER PLATE L09, IS INCIDENTAL TO THE SIGN BEING INSTALLED.

THE CONTRACTOR WILL USE 3/8-INCH DIAMETER RUST PROOF MACHINE SIGN BOLTS, FLAT METAL WASHERS, NEOPRENE WASHERS (AGAINST THE SIGN SHEETING), LOCK WASHERS, AND NUTS TO FASTEN THE SIGN TO THE CHANNEL ALUMINUM AND POSTS. A MINIMUM OF TWO BOLTS WILL EXTEND THROUGH EACH POST.

WHEN SIGNS ARE VERTICALLY MOUNTED IN SUCCESSION, THEY WILL BE 1-2 INCHES APART. THE MINIMUM SPACING BETWEEN MULTIPLE SIGNPOSTS IS 7 FEET.

ALL COSTS ASSOCIATED WITH FURNISHING AND INSTALLING THE NEW PERMANENT SIGNS, AND WITH FURNISHING AND INSTALLING STIFFENERS AND HARDWARE WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR FLAT ALUMINUM SIGN, NON REMOVABLE COPY SUPER/VERY HIGH INTENSITY.

REMOVE TRAFFIC SIGN

EXISTING SIGNS THAT ARE SHOWN AS BEING REMOVED IN THE PERMANENT SIGNING TABLE WILL BECOME THE PROPERTY OF THE CONTRACTOR. EXISTING SIGNPOSTS AND BASES WILL

BE REMOVED IN THEIR ENTIRETY. ALL EXISTING SIGNS, POSTS, AND/OR HARDWARE REMOVED WILL NOT BE REUSED. HOLES REMAINING FROM THE REMOVAL OF WOOD POSTS WILL BE BACKFILLED AND COMPACTED WITH MATERIAL PLACED IN LAYERS NOT TO EXCEED 6 INCHES IN DEPTH.

ALL COSTS ASSOCIATED WITH THE REMOVAL OF EXISTING SIGNS, POSTS, HARDWARE, AND BACKFILLING HOLES WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER EACH FOR REMOVE TRAFFIC SIGN. QUANTITIES WILL BE PER ASSEMBLY AT THE CONTRACT UNIT PRICE PER EACH.

RESET SIGN

SIGNS THAT ARE SCHEDULED FOR RESET WILL BE DISMANTLED AND REASSEMBLED TO THE EXTENT NEEDED BY THE CONTRACTOR TO PROPERLY RESET THE SIGN. SIGNS WILL BE HANDLED WITH CARE SO THAT THE EXISTING SIGNS, POSTS, AND BASES ARE NOT DAMAGED DURING THE RELOCATION PROCESS. THE CONTRACTOR WILL REPLACE AND PAY FOR ANY RESET SIGNS DAMAGED IN THEIR CARE. THE CONTRACTOR WILL REMOVE AND DISPOSE OF ANY EXISTING POSTS FOR ALL RESET SIGNS THAT REQUIRE USE OF NEW POSTS AS SHOWN IN THE TABLE OF PERMANENT SIGNING.

ALL COSTS FOR REMOVING, DISMANTLING, AND DISPOSING OF ANY DAMAGED EXISTING POSTS WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER EACH FOR REMOVE SIGN FOR RESET. ALL COSTS FOR RESETTING THE EXISTING SIGNS WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER EACH FOR RESET SIGN. ALL QUANTITIES FOR REMOVE SIGN FOR RESET AND RESET SIGN WILL BE PER ASSEMBLY AT THE CONTRACT UNIT PRICE PER EACH.

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ADDITIONAL APPROACH ASPHALT PAVING - BIA 12				
Station	L/R	FF/Res	Area (yd^2)	Asphalt Tonnage
3+61.33	14.48 LT	Res	54.29	14.76
4+55.94	15.68 LT	Res	48.43	13.17
5+59.57	14.90 LT	Res	37.45	10.18
6+58.58	15.28 LT	Res	32.35	8.80
7+26.43	15.38 LT	Res	214.26	58.25
7+25.97	15.64 RT	Res	223.48	60.76
10+31.10	14.50 LT	FF	32.76	8.91
18+73.58	14.26 LT	FF	26.45	7.19
18+75.42	14.34 RT	FF	23.42	6.37
25+16.57	14.34 RT	Res	116.76	31.74
30+64.09	14.54 LT	FF	19.85	5.40
30+99.77	16.53 RT	FF	16.18	4.40
75+02.78	16.63 LT	FF	75.20	20.44
75+09.30	16.80 RT	FF	22.26	6.05
125+33.83	16.74 RT	FF	18.10	4.92
147+77.98	15.99 RT	FF	41.37	11.25
339+34.83	13.95 LT	Res	147.01	39.97
339+34.40	13.39 RT	Res	165.34	44.95
358+39.64	13.91 LT	FF	20.52	5.58
358+39.04	14.00 RT	FF	11.68	3.18
396+83.06	13.18 RT	Res	169.86	46.18
400+21.40	13.33 LT	Res	178.89	48.64
404+54.72	14.00 LT	FF	31.36	8.53
404+60.62	14.00 RT	Res	117.25	31.88
505+02.97	23.34 RT	FF	38.19	10.38
520+79.10	11.98 RT	FF	24.21	6.58
537+51.92	13.80 LT	FF	29.46	8.01
624+98.24	15.39 LT	FF	22.72	6.18
625+02.74	14.82 RT	Res	111.55	30.33
665+09.66	14.27 LT	FF	19.59	5.33
		Totals	2090.21	568.28

ADDITIONAL GUARDRAIL ASPHALT PAVING - BIA 12					
Beg. Station	End Station	L/R	Width (ft)	Area (yd^2)	Asphalt Tonnage
43+07.78	51+20.28	RT	5.27	505.04	136.43
54+93.22	59+05.72	LT	5.27	270.82	73.16
58+32.81	73+57.81	RT	5.27	922.25	249.13
84+64.77	98+27.27	LT	5.27	827.10	223.43
92+92.84	97+17.81	RT	5.27	278.12	75.13
109+23.44	113+35.93	RT	5.27	270.81	73.16
109+53.71	113+66.21	LT	5.27	270.82	73.16
116+43.88	123+18.88	LT	5.27	424.53	114.68
118+33.23	124+45.90	RT	5.27	388.03	104.82
137+57.81	142+20.31	RT	5.27	300.10	81.07
340+13.54	341+01.04	RT	5.27	65.88	17.80
340+13.57	341+01.07	LT	5.27	65.88	17.80
341+94.23	342+81.73	RT	5.27	65.88	17.80
341+94.30	342+81.80	LT	5.27	65.88	17.80
358+62.04	366+70.04	LT	5.27	487.77	131.76
387+60.33	396+55.83	RT	5.27	539.00	145.60
404+77.90	410+10.91	RT	5.27	326.75	88.27
404+90.31	410+10.80	LT	5.27	319.41	86.29
411+04.00	411+91.50	LT	5.27	65.88	17.80
411+04.00	411+91.50	RT	5.27	65.88	17.80
471+61.45	481+86.45	RT	5.27	629.47	170.04
474+89.78	481+02.27	LT	5.27	387.92	104.79
485+14.59	489+52.09	LT	5.27	285.46	77.11
492+55.57	499+42.63	RT	5.27	431.59	116.59
492+81.43	498+06.12	LT	5.27	336.51	90.90
521+25.87	526+00.87	LT	5.27	307.42	83.04
533+63.91	539+38.91	RT	5.27	365.97	98.86
658+13.90	666+01.39	RT	5.27	490.40	132.47
658+32.12	664+85.72	LT	5.27	397.36	107.34
672+15.08	678+90.07	RT	5.27	424.52	114.68
672+46.13	681+58.63	LT	5.27	563.60	152.25
			Totals	11146.02	3010.93

NOTES :

1. THIS ADDITIONAL SURFACING TABLE IS FOR INFORMATIONAL PURPOSES ONLY. ACTUAL SURFACING LOCATIONS AND BUMP OUTS SHOULD BE DETERMINED BY FIELD VERIFIED PROCEDURES.

This document was originally issued and sealed by Darin Falcon, Registration Number 12804 on 10/18/2022 and the original documents are stored at KLJ, Bismarck, ND. This media should not be considered a certified document.

Revised

BIA 12 Rehabilitation

Cheyenne River Sioux Tribe
Ziebach County, South Dakota

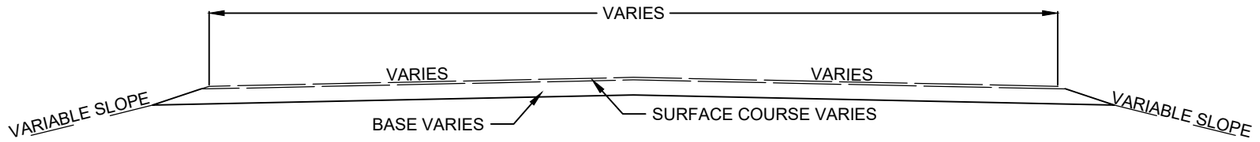
BIA 12
ADDITIONAL SURFACING

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

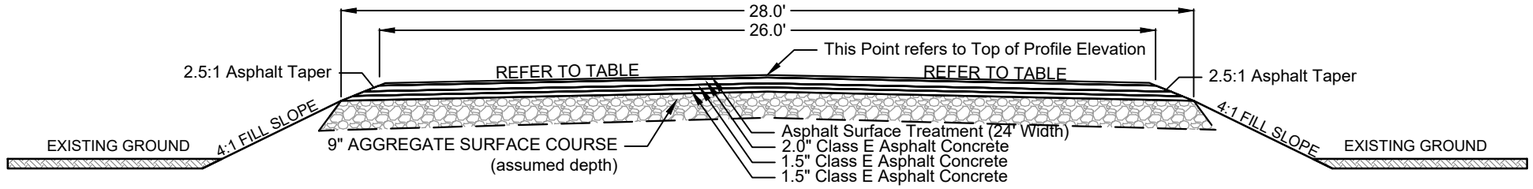
Oct 13, 2022 - 3:44pm - \\klj-solutions.com\dfs\Data\Projects\Tribal\CheyenneRiverSioux\2211-00233_NSFLTP-Application\1911_01336_CRT_BIA12Rehabilitation\CAD\Design\Plans\Approach_Guardrail_Bumpouts.dwg

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	11	238



BIA 12 EXISTING TYPICAL ROAD SECTION
NOT TO SCALE



BIA 12 PROPOSED TYPICAL ROAD SECTION:
STA 1+90.00 TO STA 507+00.00
STA 516+00.00 TO STA 956+55.68
NOT TO SCALE

NOTES :

1. REFER TO CROSS SECTIONS FOR FILL SLOPES.

SUPERELEVATION TABLE - BIA 12

STATION	RATE LT	POINT TYPE	RATE RT	POINT TYPE
5+87.91	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
6+43.74	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
6+99.58	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
7+77.74	-4.80%	BEGIN FULL SUPER	4.80%	BEGIN FULL SUPER
13+67.65	-4.80%	END FULL SUPER	4.80%	END FULL SUPER
14+45.82	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
15+01.65	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
15+57.49	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
21+70.19	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
22+25.85	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
22+81.52	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
23+92.85	-6.00%	BEGIN FULL SUPER	6.00%	BEGIN FULL SUPER
38+41.31	-6.00%	END FULL SUPER	6.00%	END FULL SUPER
39+52.65	-2.00%	REVERSE CROWN	2.00%	REVERSE CROWN
40+08.31	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
40+63.98'	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
50+25.29	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
50+80.95	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
51+36.60	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
52+08.95	-4.60%	BEGIN FULL SUPER	4.60%	BEGIN FULL SUPER
56+66.86	-4.60%	END FULL SUPER	4.60%	END FULL SUPER
57+39.21	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
57+94.86	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
58+50.51	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN

SUPERELEVATION TABLE - BIA 12

STATION	RATE LT	POINT TYPE	RATE RT	POINT TYPE
107+46.92	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
108+02.92	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
108+58.92	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
108+86.92	-3.00%	BEGIN FULL SUPER	3.00%	BEGIN FULL SUPER
131+21.53	-3.00%	END FULL SUPER	3.00%	END FULL SUPER
131+49.53	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
132+05.53	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
132+61.53	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
139+72.34	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
140+28.01	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
140+83.68	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
141+95.01	-6.00%	BEGIN FULL SUPER	6.00%	BEGIN FULL SUPER
148+92.05	-6.00%	END FULL SUPER	6.00%	END FULL SUPER
150+03.38	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
150+59.05	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
151+14.71	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
155+14.95	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
155+70.95	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
156+26.95	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
157+10.95	5.00%	BEGIN FULL SUPER	-5.00%	BEGIN FULL SUPER
171+09.90	5.00%	END FULL SUPER	-5.00%	END FULL SUPER
171+93.90	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
172+49.90	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
173+05.90	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN

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Revised

BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

BIA 12 SUPERELEVATION DATA

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	12	238

NOTES :

1. REFER TO CROSS SECTIONS FOR FILL SLOPES.

SUPERELEVATION TABLE - BIA 12

STATION	RATE LT	POINT TYPE	RATE RT	POINT TYPE
176+58.84	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
177+14.55	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
177+70.26	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
178+70.55	5.60%	BEGIN FULL SUPER	-5.60%	BEGIN FULL SUPER
183+34.68	5.60%	END FULL SUPER	-5.60%	END FULL SUPER
184+34.96	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
184+90.68	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
185+46.39	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
191+55.42	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
192+11.28	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
192+67.15	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
193+73.28	5.80%	BEGIN FULL SUPER	-5.80%	BEGIN FULL SUPER
199+29.74	5.80%	END FULL SUPER	-5.80%	END FULL SUPER
200+35.88	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
200+91.74	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
201+47.61	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
205+04.60	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
205+60.26	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
206+15.93	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
207+27.26	6.00%	BEGIN FULL SUPER	-6.00%	BEGIN FULL SUPER
222+56.32	6.00%	END FULL SUPER	-6.00%	END FULL SUPER
223+67.66	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
224+23.32	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
224+78.99	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
232+39.01	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
232+94.84	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
233+50.67	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
234+28.84	-4.80%	BEGIN FULL SUPER	4.80%	BEGIN FULL SUPER
240+31.30	-4.80%	END FULL SUPER	4.80%	END FULL SUPER
241+09.47	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
241+65.30	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
242+21.14	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
244+78.12	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
245+33.91	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
245+89.70'	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
246+39.91	3.80%	BEGIN FULL SUPER	-3.80%	BEGIN FULL SUPER
251+23.98	3.80%	END FULL SUPER	-3.80%	END FULL SUPER
251+74.19	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
252+29.98	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
252+85.77	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN

SUPERELEVATION TABLE - BIA 12

STATION	RATE LT	POINT TYPE	RATE RT	POINT TYPE
261+04.06	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
261+59.97	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
262+15.88	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
262+82.97	4.40%	BEGIN FULL SUPER	-4.40%	BEGIN FULL SUPER
267+03.25	4.40%	END FULL SUPER	-4.40%	END FULL SUPER
267+70.34	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
268+26.25	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
268+82.16	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
275+77.23	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
276+33.14	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
276+89.05	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
277+56.14	4.40%	BEGIN FULL SUPER	-4.40%	BEGIN FULL SUPER
282+57.97	4.40%	END FULL SUPER	-4.40%	END FULL SUPER
283+25.06	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
283+80.97	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
284+36.88	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
286+84.38	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
287+40.04	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
287+95.71	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
289+07.04	-6.00%	BEGIN FULL SUPER	6.00%	BEGIN FULL SUPER
297+36.75	-6.00%	END FULL SUPER	6.00%	END FULL SUPER
298+48.08	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
299+03.75	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
299+59.42	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
303+63.57	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
304+19.23	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
304+74.90	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
305+86.23	-6.00%	BEGIN FULL SUPER	6.00%	BEGIN FULL SUPER
324+49.05	-6.00%	END FULL SUPER	6.00%	END FULL SUPER
325+60.39	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
326+16.05	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
326+71.72	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
358+08.21	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
358+63.88	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
359+19.55	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
360+30.88	6.00%	BEGIN FULL SUPER	-6.00%	BEGIN FULL SUPER
373+36.38	6.00%	END FULL SUPER	-6.00%	END FULL SUPER
374+47.72	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
375+03.38	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
375+59.05	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN

SUPERELEVATION TABLE - BIA 12

STATION	RATE LT	POINT TYPE	RATE RT	POINT TYPE
382+32.28	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
382+88.28	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
383+44.28	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
384+28.28	-5.00%	BEGIN FULL SUPER	5.00%	BEGIN FULL SUPER
393+49.99	-5.00%	END FULL SUPER	5.00%	END FULL SUPER
394+33.99	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
394+89.99	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
395+45.99	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
430+14.29	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
430+70.29	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
431+26.29	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
432+10.29	5.00%	BEGIN FULL SUPER	-5.00%	BEGIN FULL SUPER
446+77.18	5.00%	END FULL SUPER	-5.00%	END FULL SUPER
447+61.18	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
448+17.18	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
448+73.18	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
463+45.18	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
464+01.18	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
464+57.18	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
465+41.18	-5.00%	BEGIN FULL SUPER	5.00%	BEGIN FULL SUPER
471+88.53	-5.00%	END FULL SUPER	5.00%	END FULL SUPER
472+72.53	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
473+28.53	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
473+84.53	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN

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Revised

BIA 12 Rehabilitation

Cheyenne River Sioux Tribe
Ziebach County, South Dakota

BIA 12
SUPERELEVATION DATA

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	13	238

NOTES :

1. REFER TO CROSS SECTIONS FOR FILL SLOPES.

SUPERELEVATION TABLE - BIA 12

STATION	RATE LT	POINT TYPE	RATE RT	POINT TYPE
488+62.02	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
489+17.68	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
489+73.35	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
490+84.68	-6.00%	BEGIN FULL SUPER	6.00%	BEGIN FULL SUPER
503+51.91	-6.00%	END FULL SUPER	6.00%	END FULL SUPER
504+63.24	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
505+18.91	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
505+74.57	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
506+99.59	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
507+55.26	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
515+81.17	-6.00%	BEGIN FULL SUPER	6.00%	BEGIN FULL SUPER
516+61.82	-6.00%	END FULL SUPER	6.00%	END FULL SUPER
517+73.16	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
518+28.82	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
518+84.49	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
543+82.64	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
544+38.31	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
544+93.98	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
546+05.31	6.00%	BEGIN FULL SUPER	-6.00%	BEGIN FULL SUPER
573+35.99	6.00%	END FULL SUPER	-6.00%	END FULL SUPER
574+47.32	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
575+02.99	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
575+58.66	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
613+30.44	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
613+86.44	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
614+42.44	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
615+26.44	5.00%	BEGIN FULL SUPER	-5.00%	BEGIN FULL SUPER
627+79.71	5.00%	END FULL SUPER	-5.00%	END FULL SUPER
628+63.71	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
629+19.71	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
629+75.71	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
662+07.27	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
662+62.90	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
663+18.52	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
663+51.90	-3.20%	BEGIN FULL SUPER	3.20%	BEGIN FULL SUPER
670+24.54	-3.20%	END FULL SUPER	3.20%	END FULL SUPER
670+57.92	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
671+13.54	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
671+69.17	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN

SUPERELEVATION TABLE - BIA 12

STATION	RATE LT	POINT TYPE	RATE RT	POINT TYPE
706+11.38	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
706+67.38	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
707+23.38	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
708+07.38	-5.00%	BEGIN FULL SUPER	5.00%	BEGIN FULL SUPER
723+20.80	-5.00%	END FULL SUPER	5.00%	END FULL SUPER
724+04.80	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
724+60.80	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
725+16.80	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
799+83.57	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
800+39.57	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
800+95.57	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
801+23.57	3.00%	BEGIN FULL SUPER	-3.00%	BEGIN FULL SUPER
819+30.00	3.00%	END FULL SUPER	-3.00%	END FULL SUPER
819+58.00	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
820+14.00	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
820+70.00	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
839+69.71	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
840+25.71	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
840+81.71	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
841+09.71	-3.00%	BEGIN FULL SUPER	3.00%	BEGIN FULL SUPER
857+95.40	-3.00%	END FULL SUPER	3.00%	END FULL SUPER
858+23.40	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
858+79.40	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
859+35.40	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
920+93.14	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
921+49.06	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
922+04.99	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
923+00.06	5.40%	BEGIN FULL SUPER	-5.40%	BEGIN FULL SUPER
932+95.19	5.40%	END FULL SUPER	-5.40%	END FULL SUPER
933+90.26	2.00%	REVERSE CROWN	-2.00%	NORMAL CROWN
934+46.19	0.00%	ZERO CROSS SLOPE	-2.00%	NORMAL CROWN
935+02.11	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN
940+07.99	-2.00%	END NORMAL CROWN	-2.00%	END NORMAL CROWN
940+63.65	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
941+19.32	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
942+30.65	-6.00%	BEGIN FULL SUPER	6.00%	BEGIN FULL SUPER
952+51.33	-6.00%	END FULL SUPER	6.00%	END FULL SUPER
953+62.66	-2.00%	NORMAL CROWN	2.00%	REVERSE CROWN
954+18.33	-2.00%	NORMAL CROWN	0.00%	ZERO CROSS SLOPE
954+73.99	-2.00%	BEGIN NORMAL CROWN	-2.00%	BEGIN NORMAL CROWN

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BIA 12 Rehabilitation

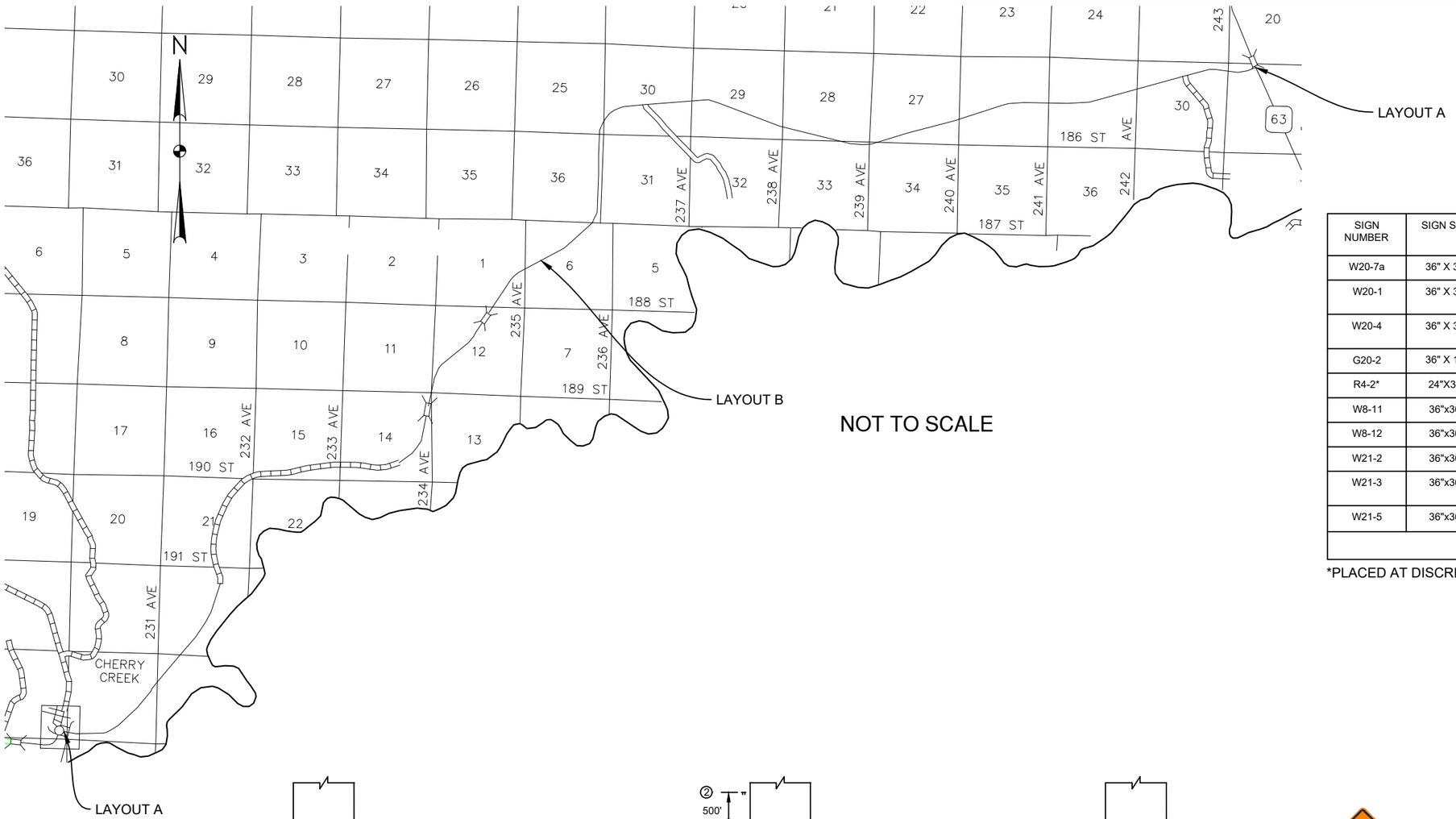
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

BIA 12
SUPERELEVATION DATA

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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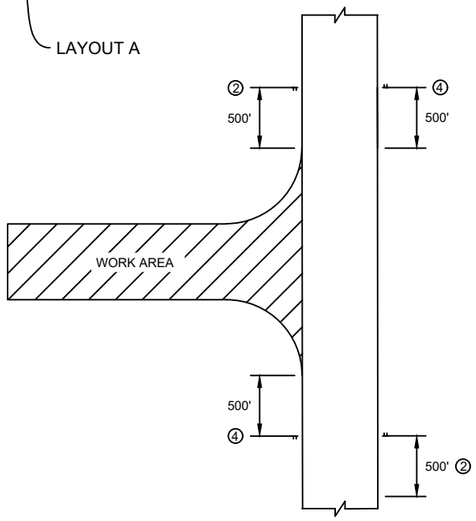
STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	14	238



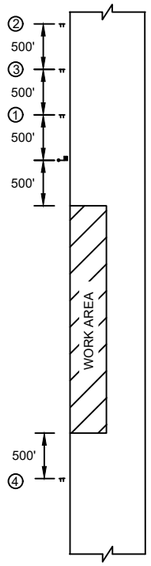
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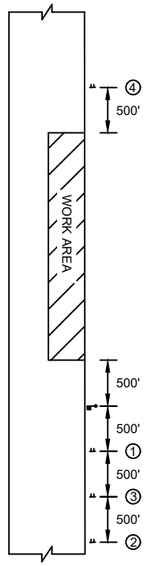
SIGN NUMBER	SIGN SIZE	DESCRIPTION	ESTIMATED QUANTITY	SQFT PER SIGN	TOTAL SQFT
W20-7a	36" X 36"	FLAGGER AHEAD	4	9	36
W20-1	36" X 36"	ROAD WORK AHEAD	6	9	54
W20-4	36" X 36"	ONE LANE ROAD AHEAD	4	9	36
G20-2	36" X 18"	END ROAD WORK	6	4.5	27
R4-2*	24"X30"	PASS WITH CARE	2	5	10
W8-11	36"x36"	UNEVEN LANES	2	9	18
W8-12	36"x36"	NO CENTER LINE	4	9	36
W21-2	36"x36"	FRESH OIL	2	9	18
W21-3	36"x36"	ROAD MACHINERY AHEAD	4	9	36
W21-5	36"x36"	SHOULDER WORK	4	9	36
				TOTAL:	307

*PLACED AT DISCRETION OF FIELD ENGINEER



LAYOUT "A"





LAYOUT "B"



① W20-7a (36" X 36")



② W20-1 (36" X 36")



③ W20-4 (36" X 36")



④ G20-2 (36" X 18")

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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

KLJ

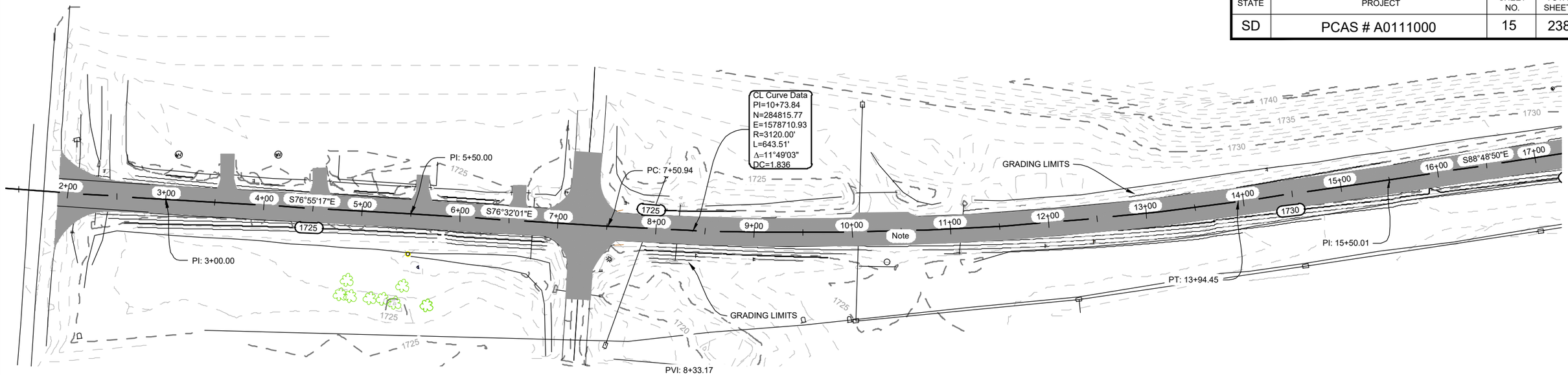
BIA 12
TRAFFIC CONTROL

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

Oct 14, 2022 - 8:50am - \\klj-solutions.com\dfs\Data\Projects\Tribal\CheyenneRiverSioux\2211-00233_NSFLTP-Application\1911_01336_CRT_BIA12Rehabilitation\CAD\Design\Plans\6-Traffic Control.dwg

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	15	238



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BIA 12 Rehabilitation

Cheyenne River Sioux Tribe
Ziebach County, South Dakota

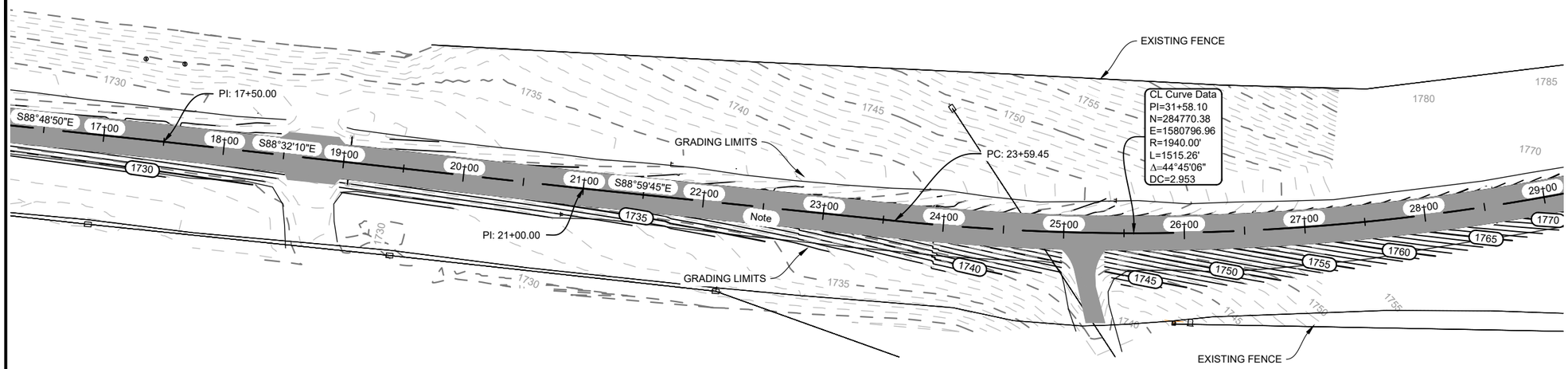
BIA 12 PLAN & PROFILES
STA 1+90 - 17+00

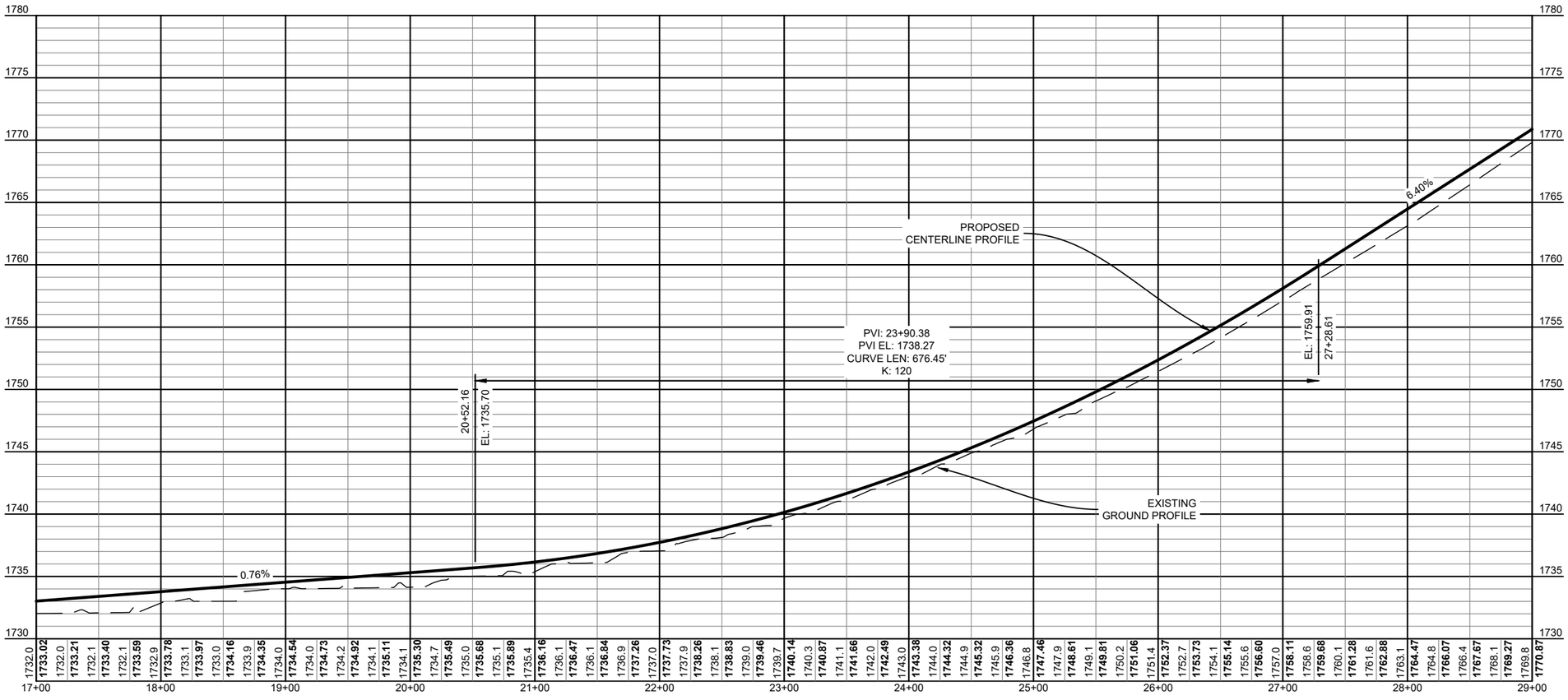
DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

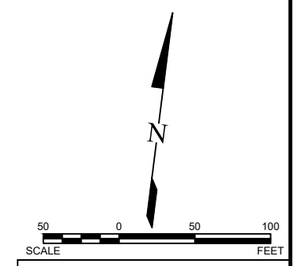
Oct 21, 2022 - 1:22pm - K:\Projects\Tribal\CheyenneRiverSioux\2211-00233_NSFLTP-Application\1911_01336_CRT_BIA12Rehabilitation\CAD\Design\Plans\Region 1_Plan & Profile.dwg

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	16	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

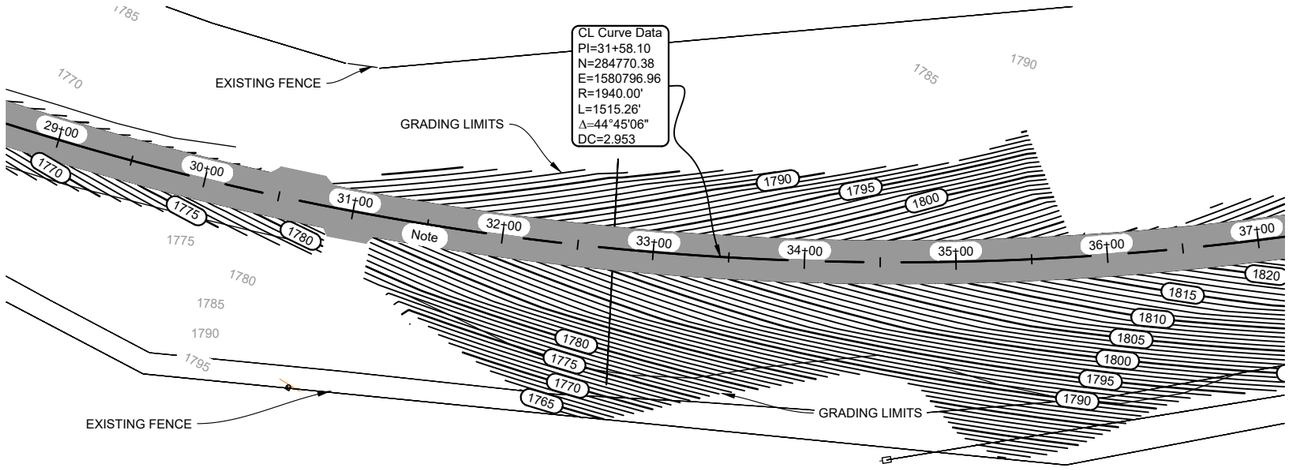
BIA 12 PLAN & PROFILES
STA 17+00 - 29+00

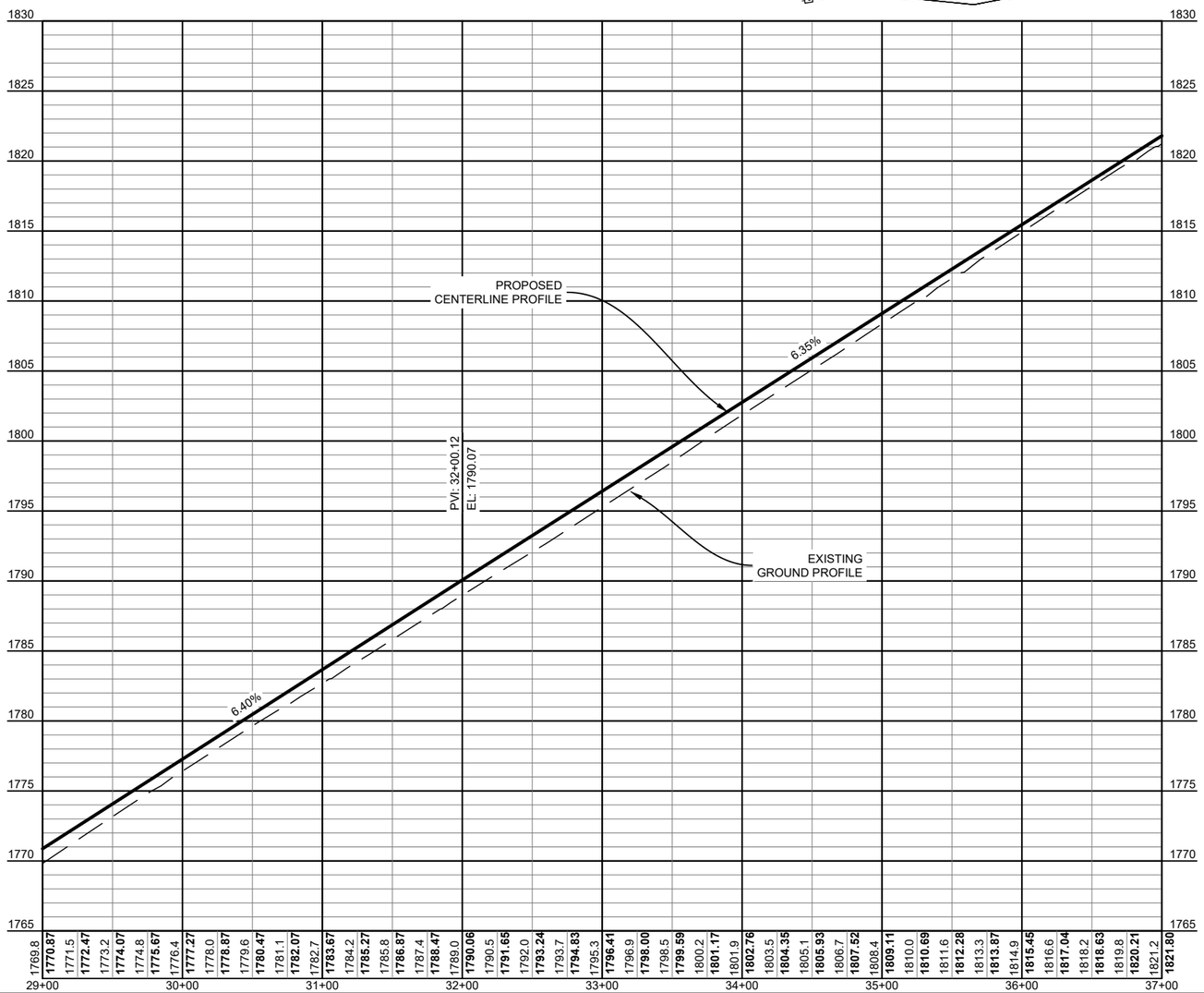
DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

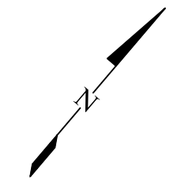
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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	17	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

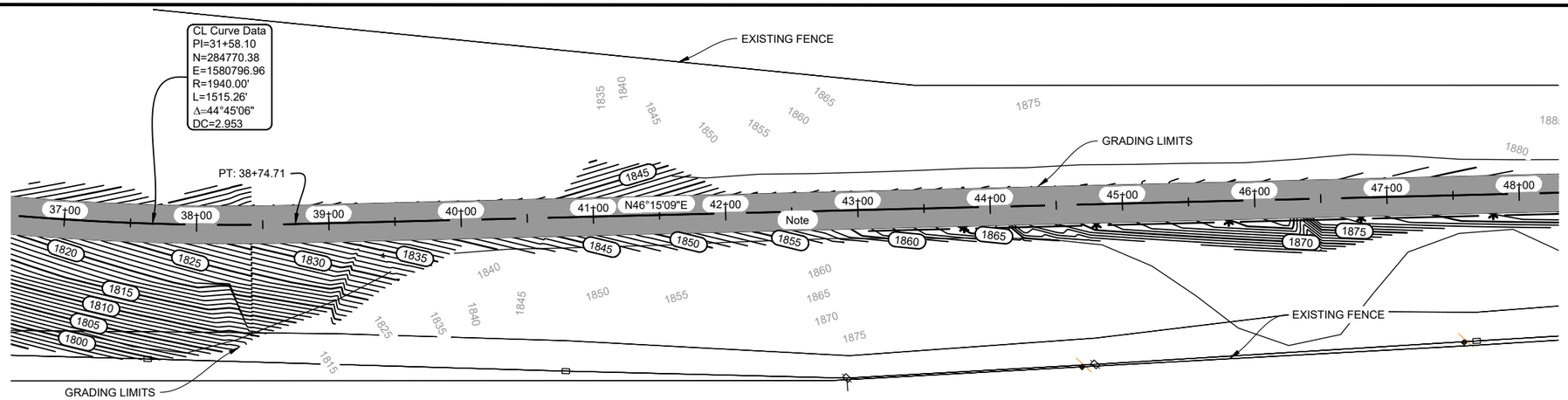
BIA 12 PLAN & PROFILES
STA 29+00 - 37+00

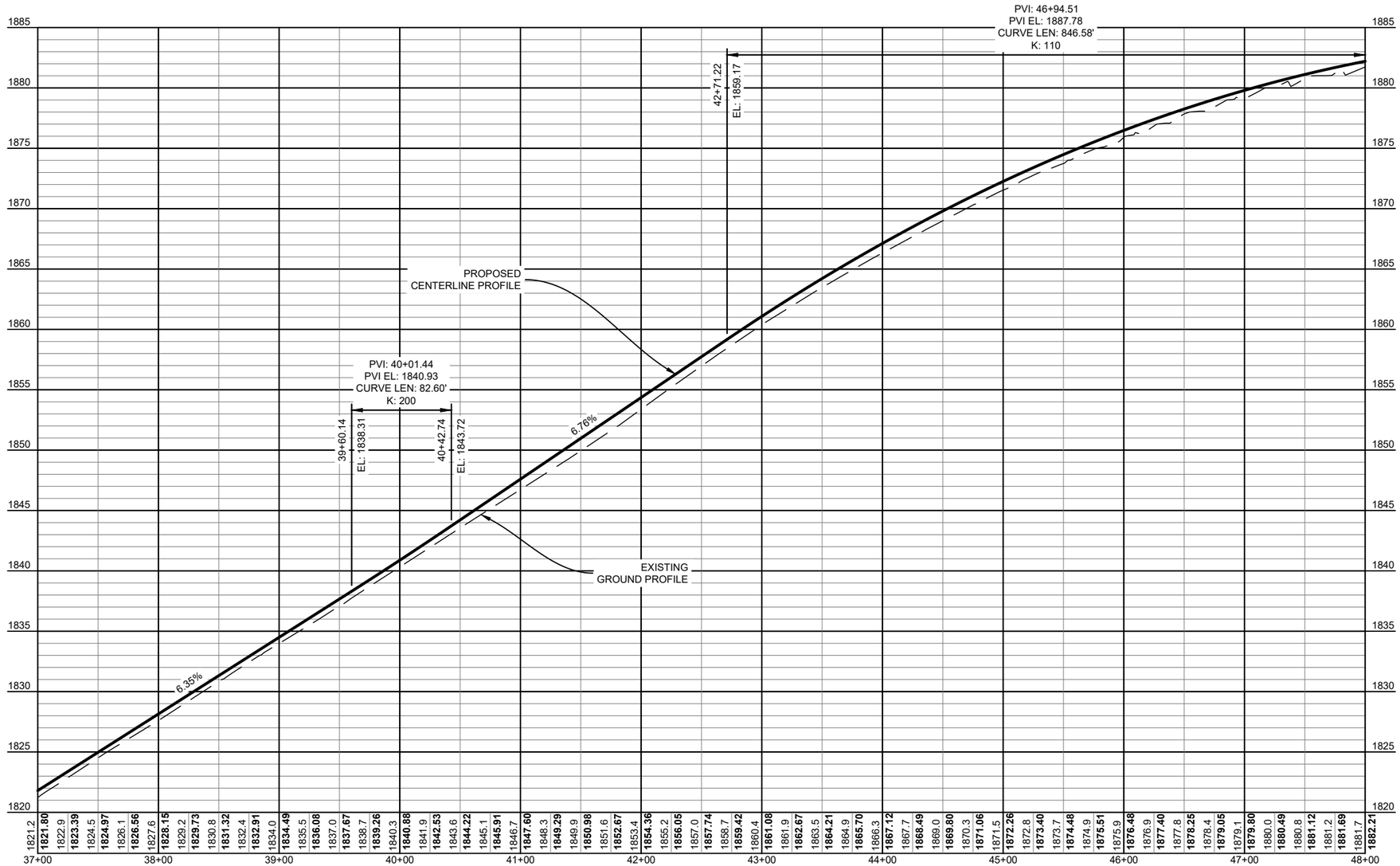
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ADS	CDF	1911-01336

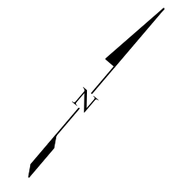
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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	18	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

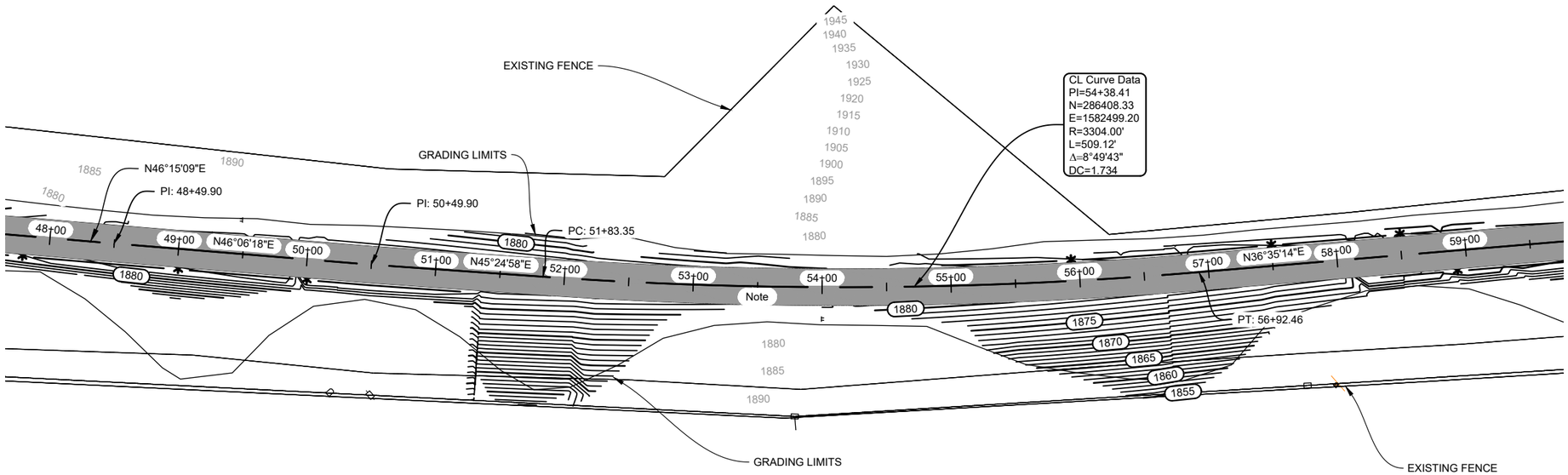
BIA 12 PLAN & PROFILES
STA 37+00 - 48+00

DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

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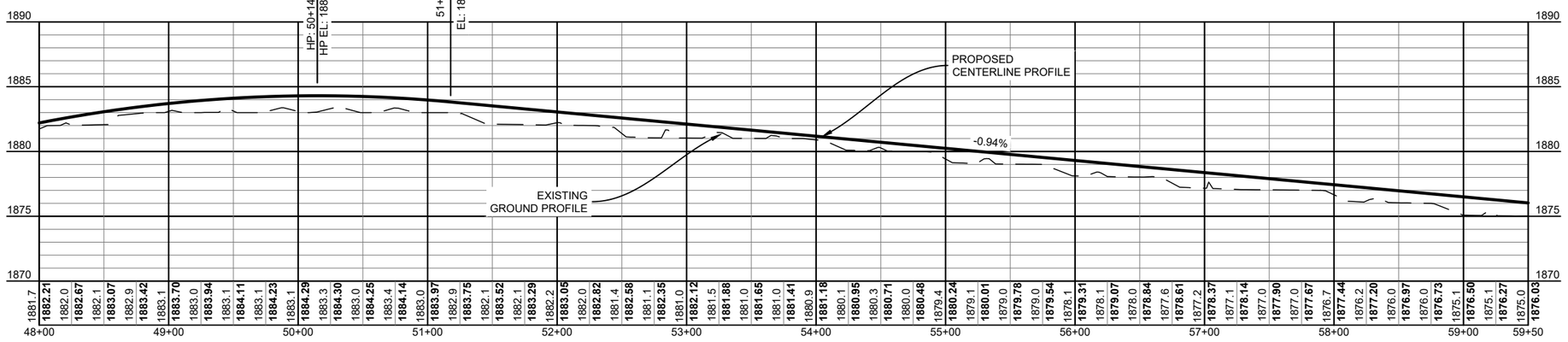
STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	19	238

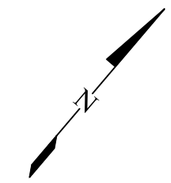


PVI: 46+94.51
PVI EL: 1887.78
CURVE LEN: 846.58'
K: 110

HP: 50+14.83
HP EL: 1884.30

51+17.80
EL: 1883.82





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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

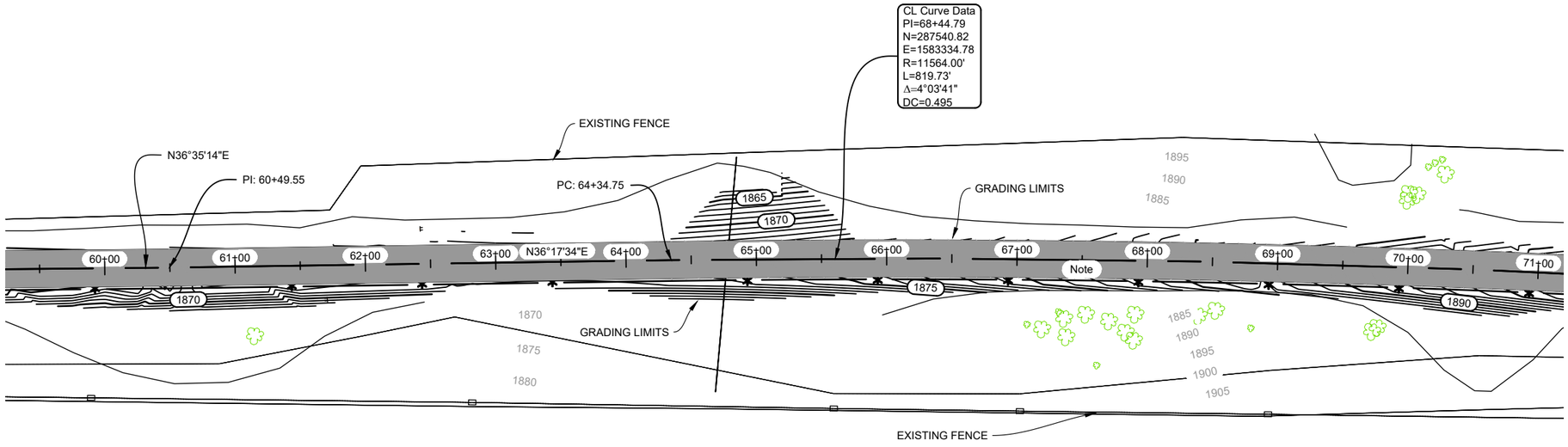
BIA 12 PLAN & PROFILES
STA 48+00 - 59+50

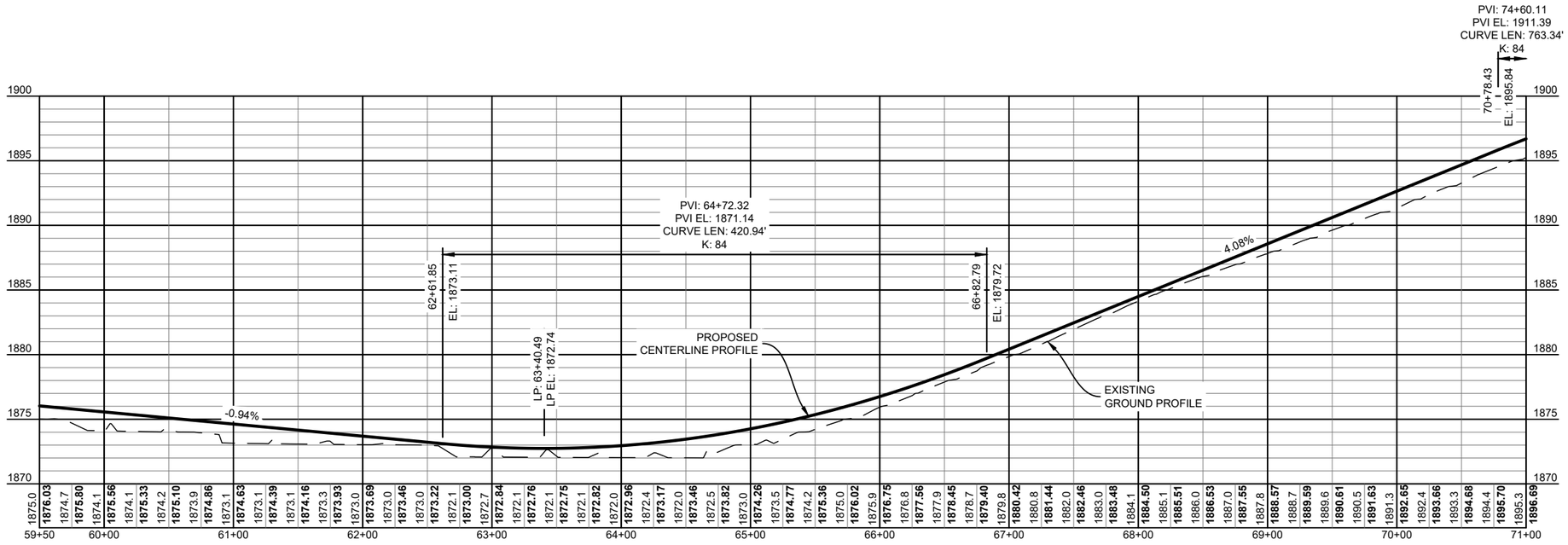
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ADS	CDF	1911-01336

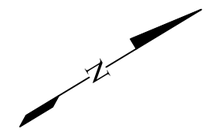
Oct 21, 2022 - 1:24pm - K:\Projects\Tribal\CheyenneRiverSioux\2211-00233_NSFLTP-Application\1911_01336_CRT_BIA12Rehabilitation\CAD\Design\Plans\Region 1_Plan & Profile.dwg

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	20	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

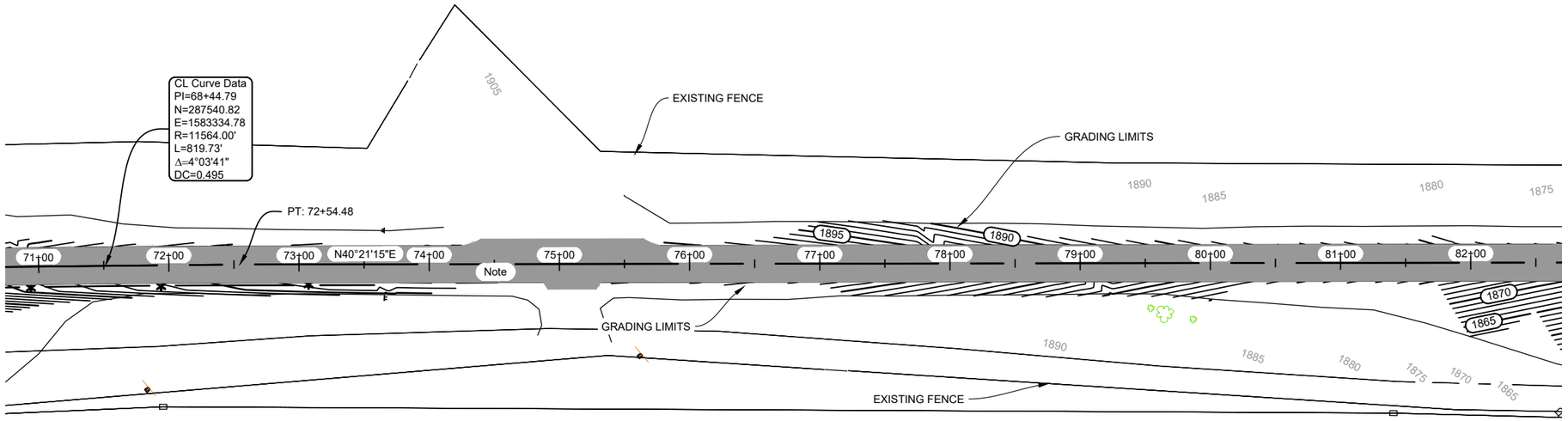
BIA 12 PLAN & PROFILES
STA 59+50 - 71+00

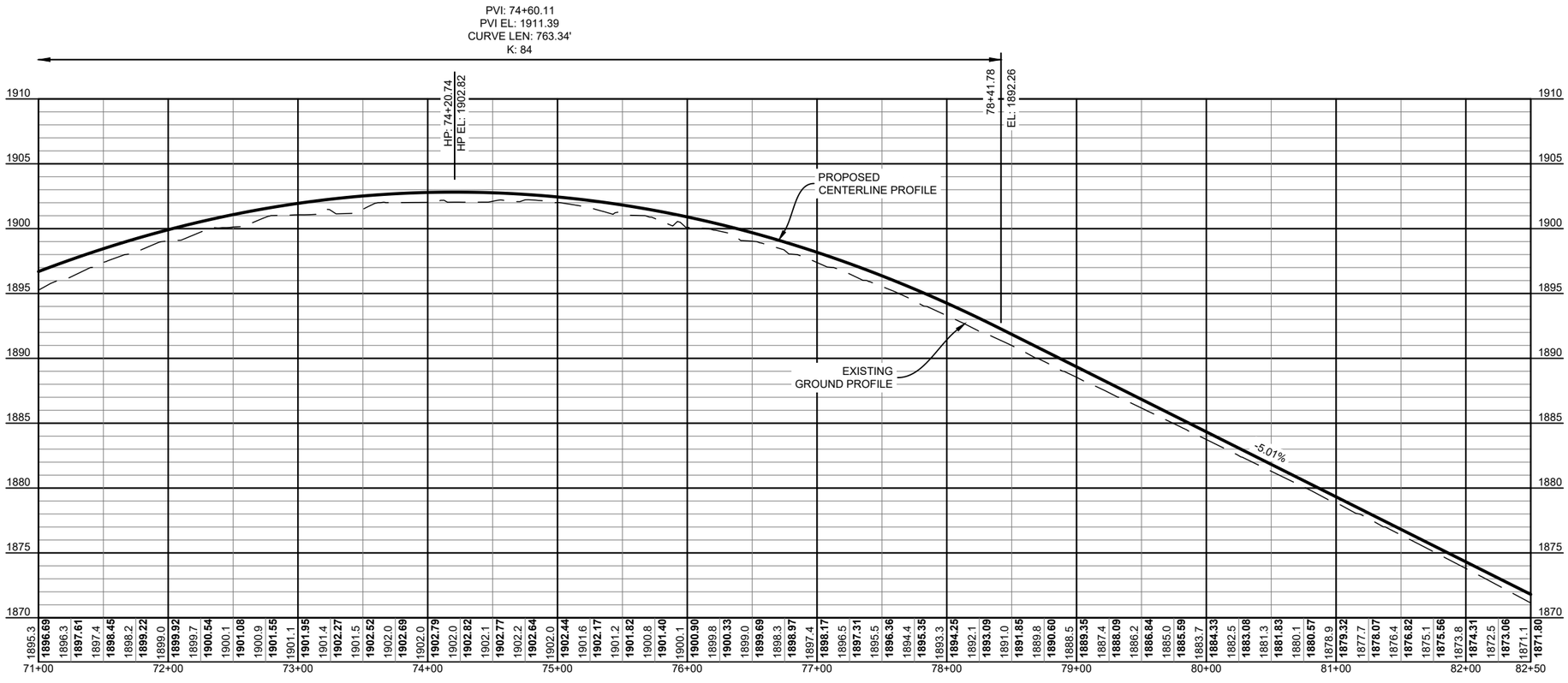
DRWN. BY	CHK'D BY	PROJECT NO.
ADS	CDF	1911-01336

Oct 21, 2022 - 1:25pm - K:\Projects\Tribal\CheyenneRiverSioux\2211-00233_NSFLTP-Application\1911_01336_CRT_BIA12Rehabilitation\CAD\Design\Plans\Region 1_Plan & Profile.dwg

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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	21	238









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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

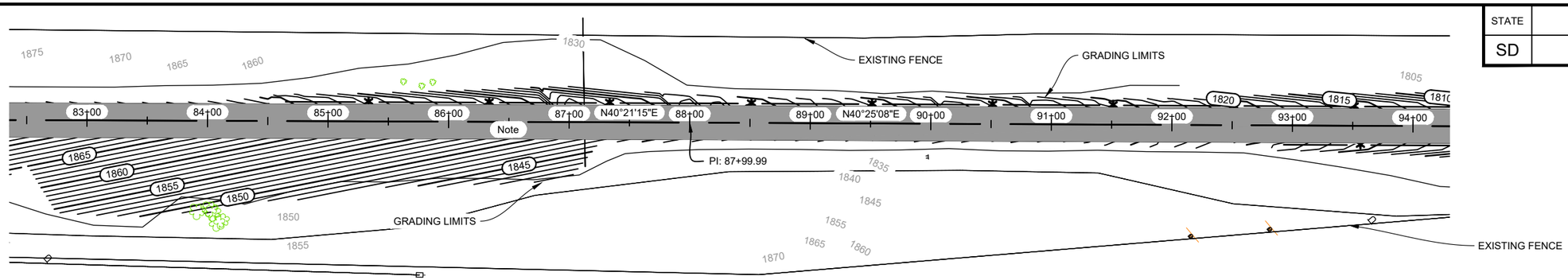
BIA 12 PLAN & PROFILES
STA 71+00 - 82+50

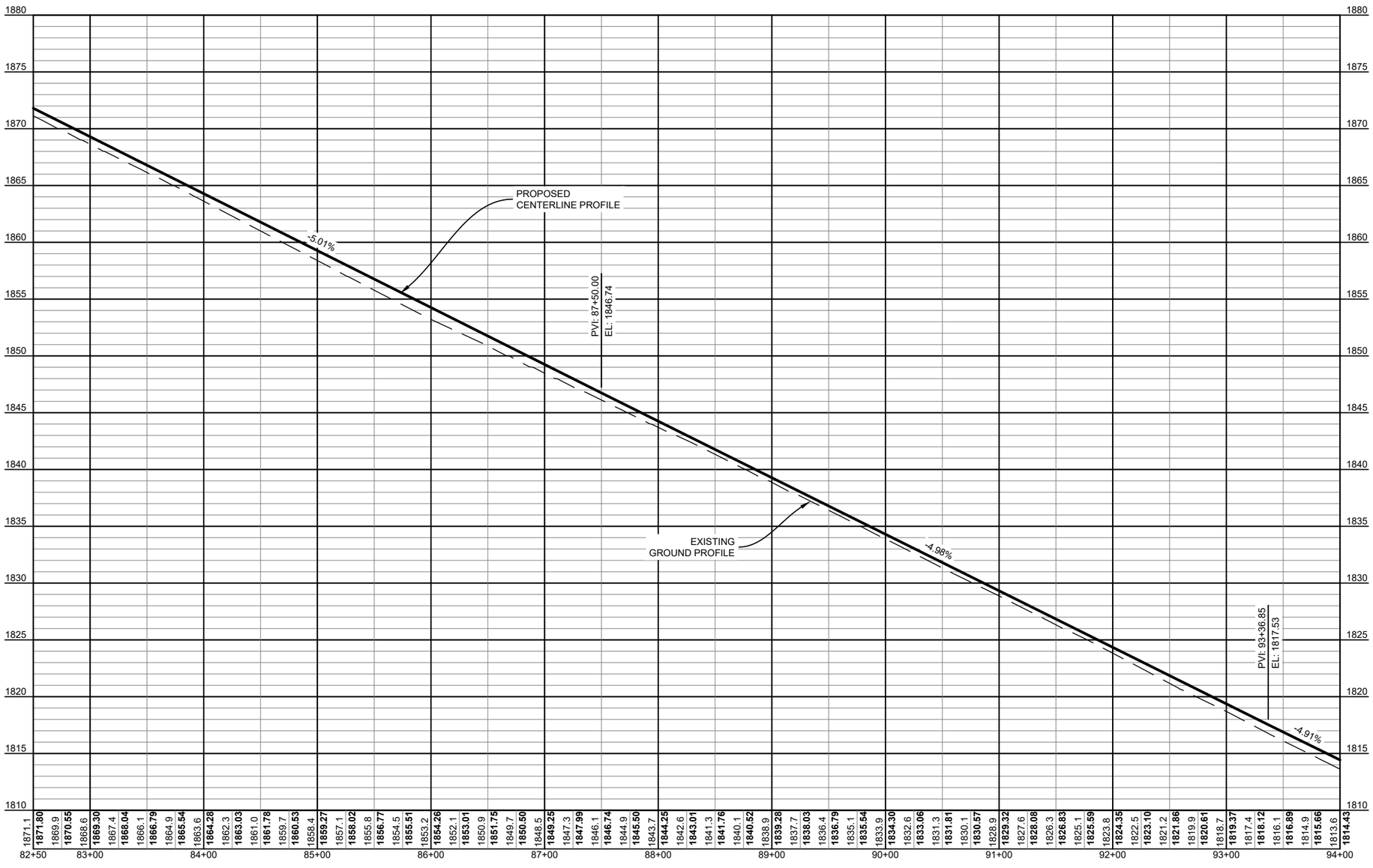
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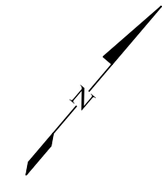
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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	22	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

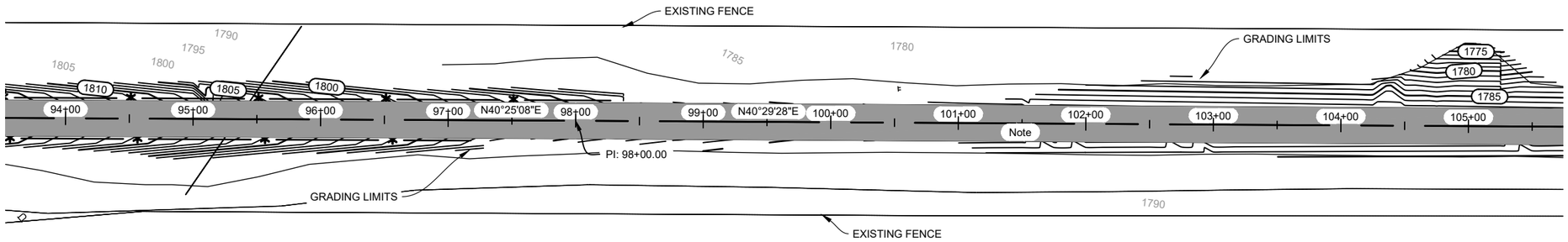
BIA 12 PLAN & PROFILES
STA 82+50 - 94+00

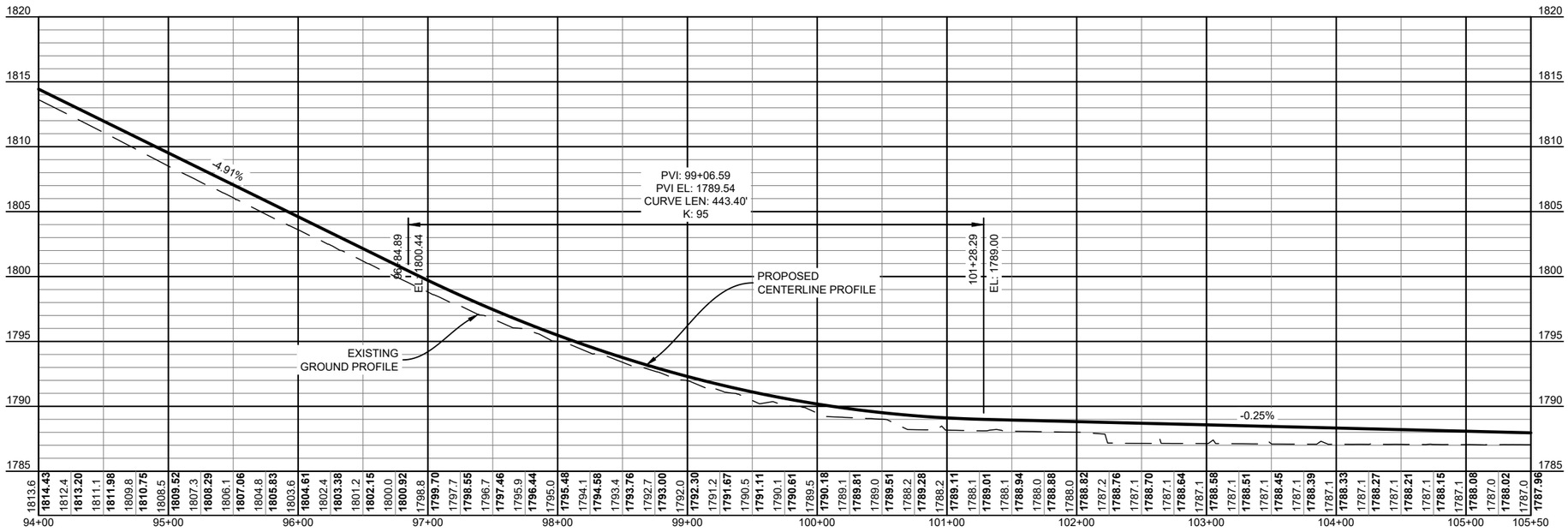
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ADS	CDF	1911-01336

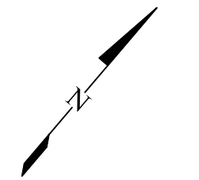
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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	23	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

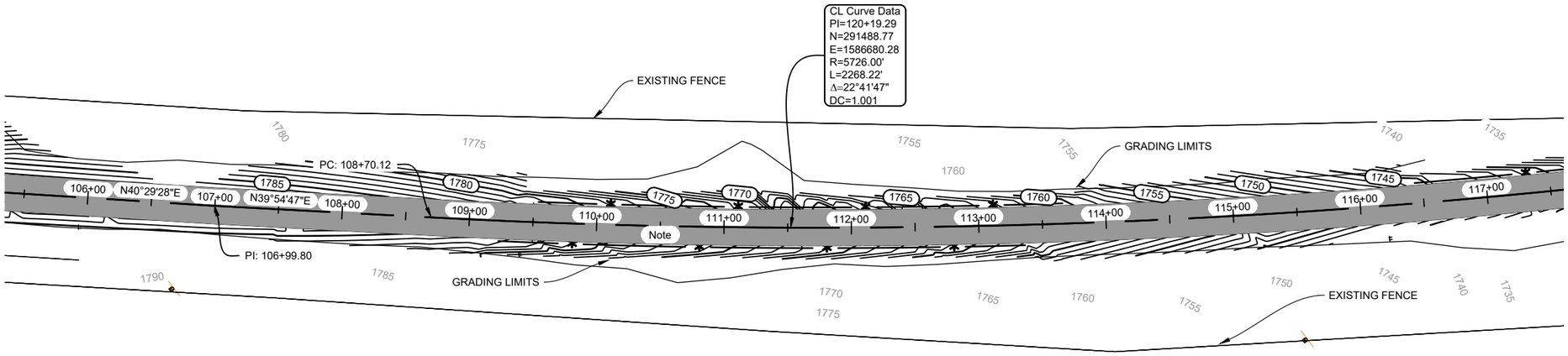
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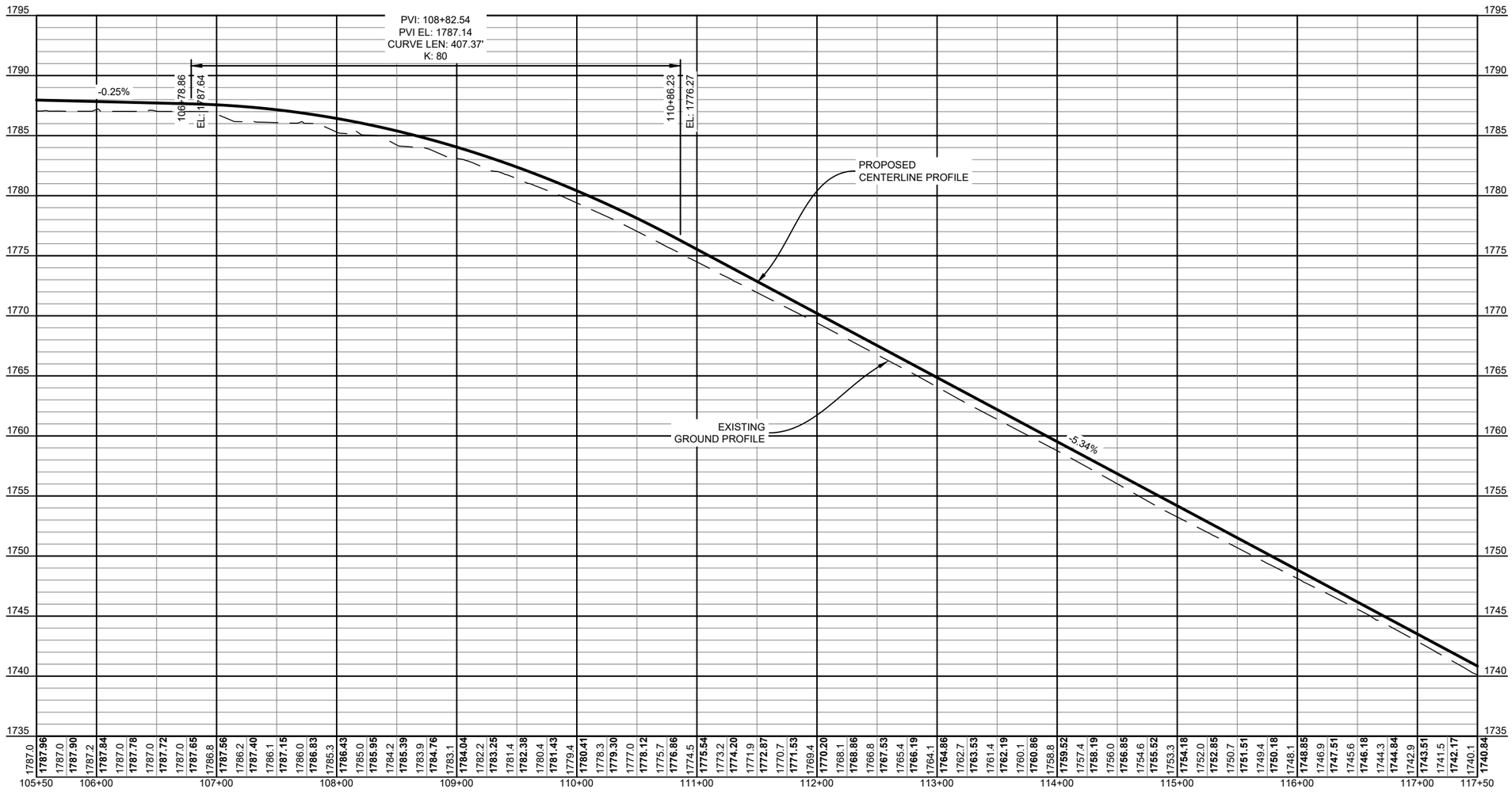
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ADS	CDF	1911-01336

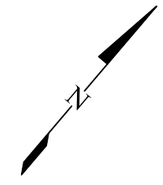
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SD	PCAS # A0111000	24	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

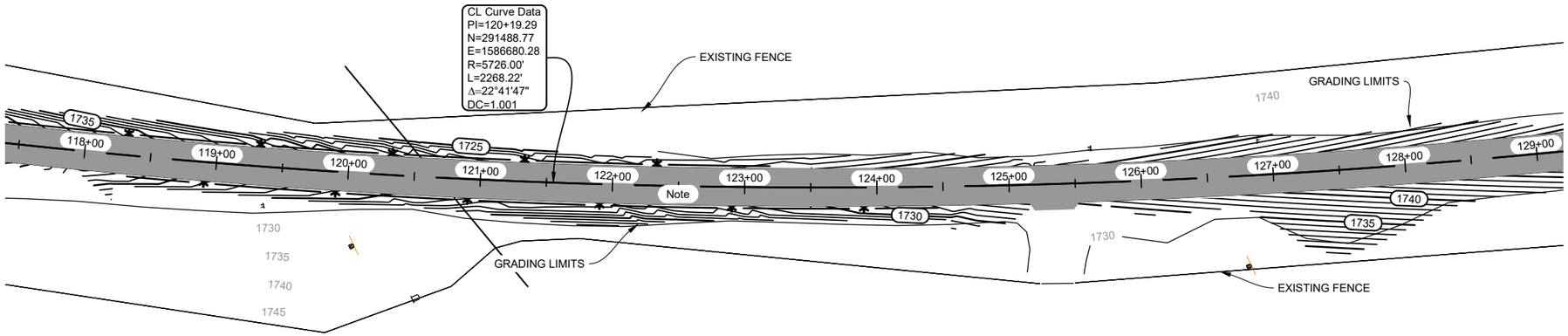
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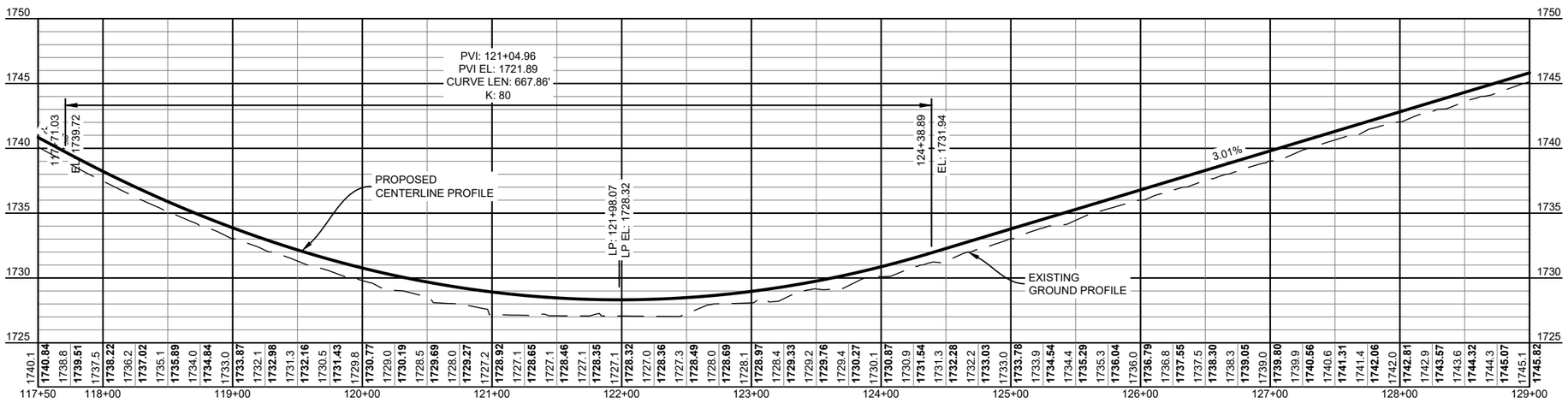
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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	25	238







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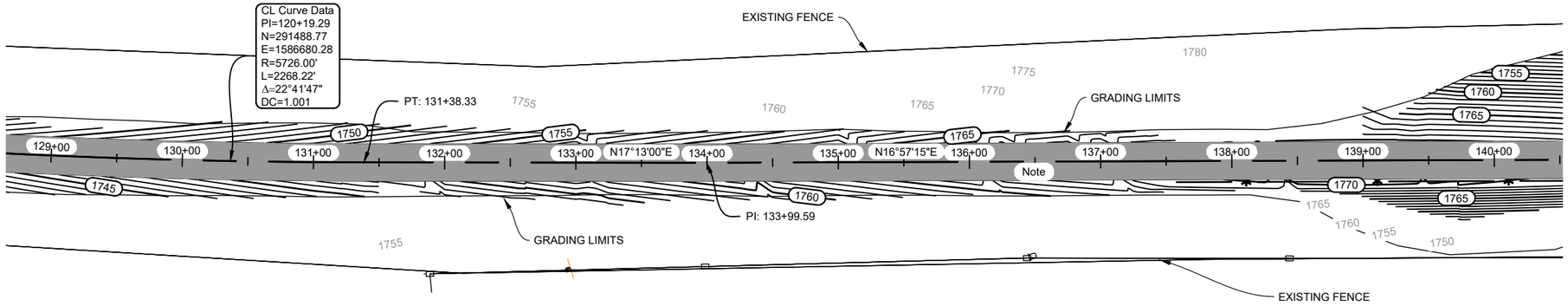
BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

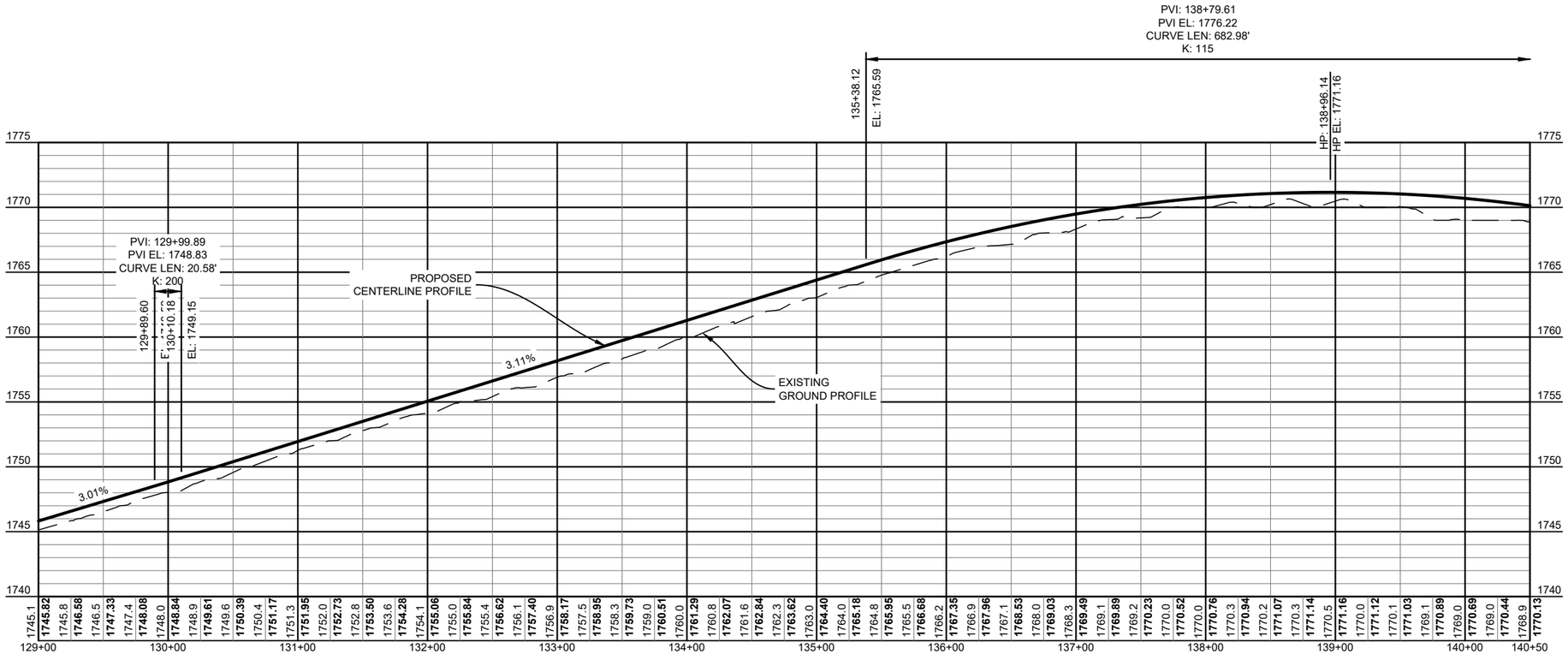
BIA 12 PLAN & PROFILES
STA 117+50 - 129+00

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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

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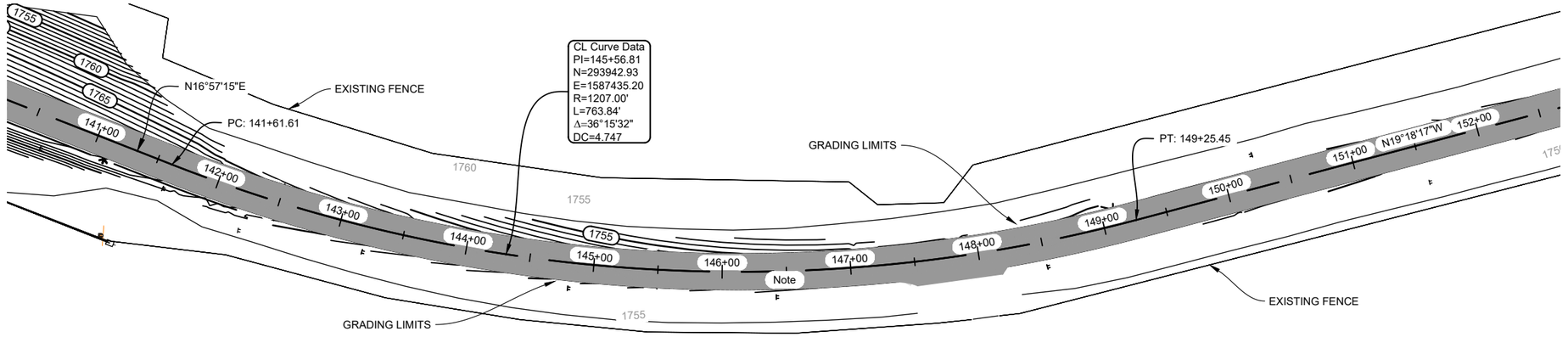
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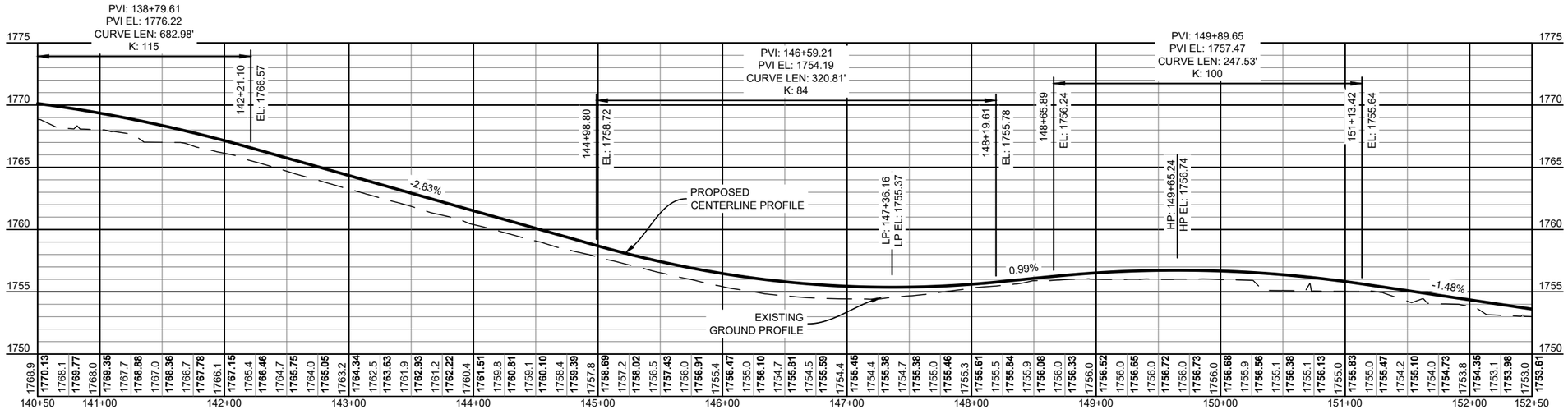
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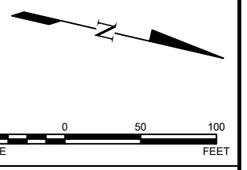
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SD	PCAS # A0111000	27	238







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Cheyenne River Sioux Tribe
Ziebach County, South Dakota

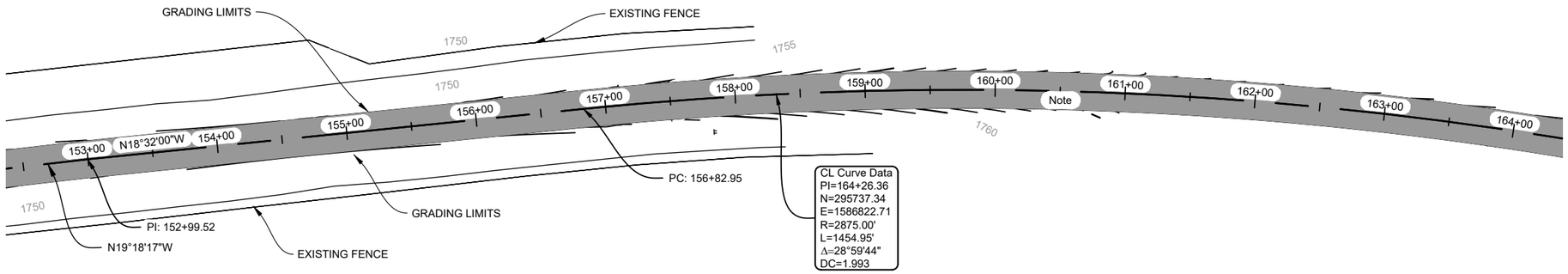
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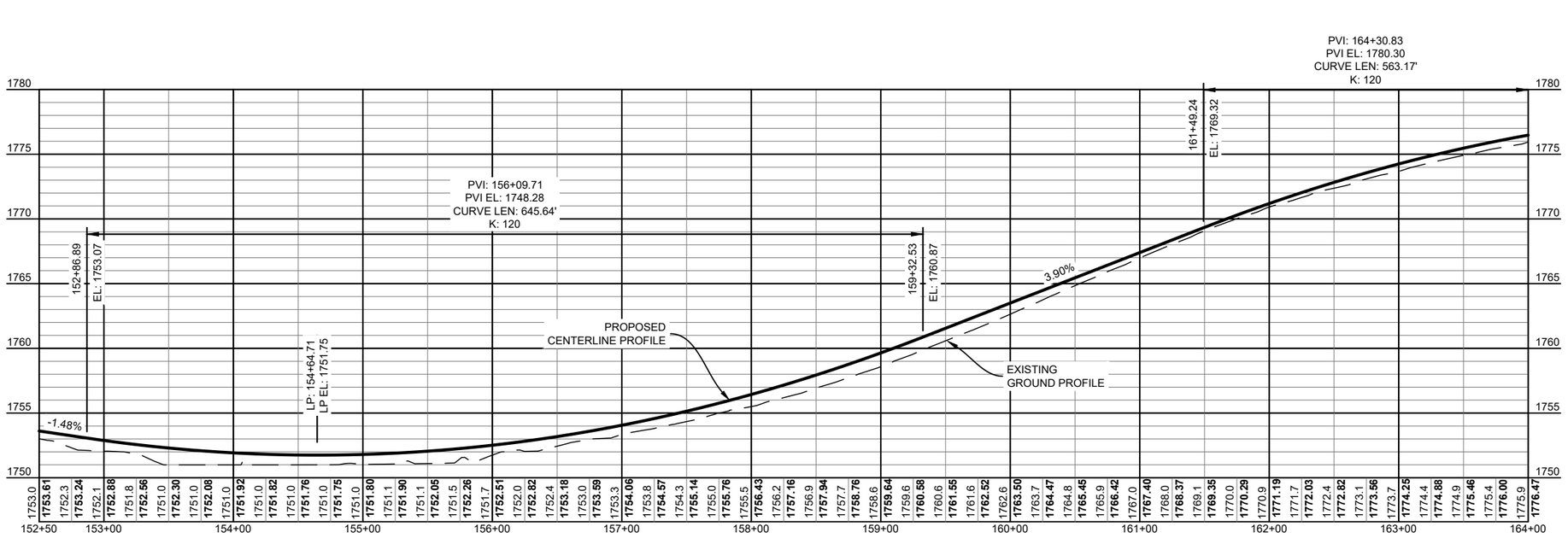
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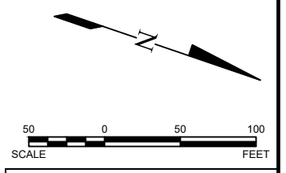
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SD	PCAS # A0111000	28	238







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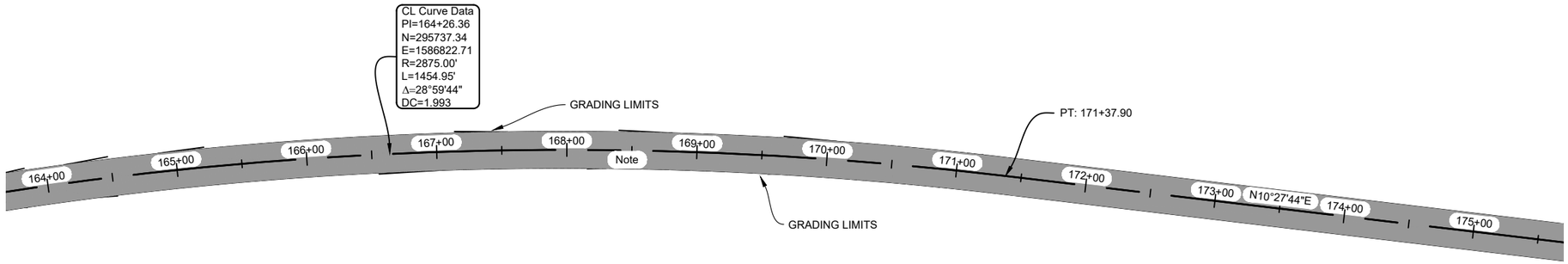
BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

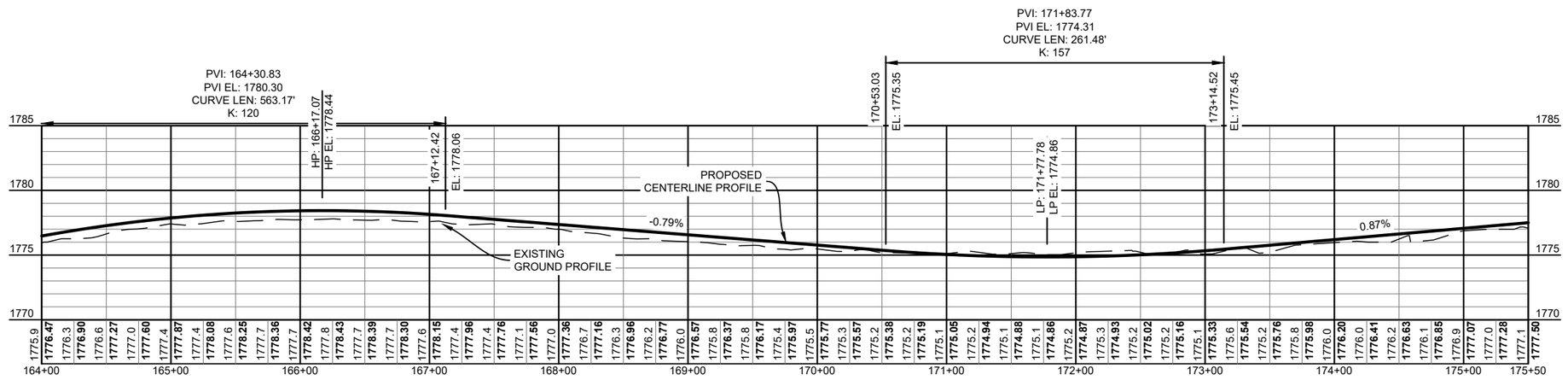
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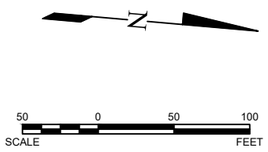
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SD	PCAS # A0111000	29	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

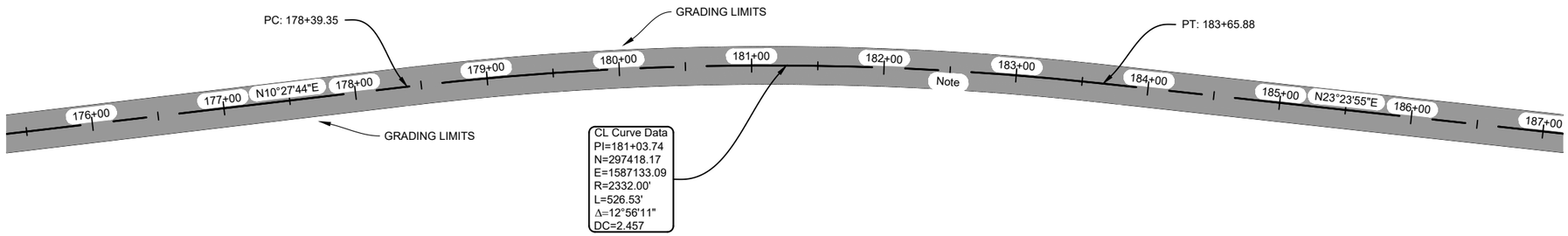
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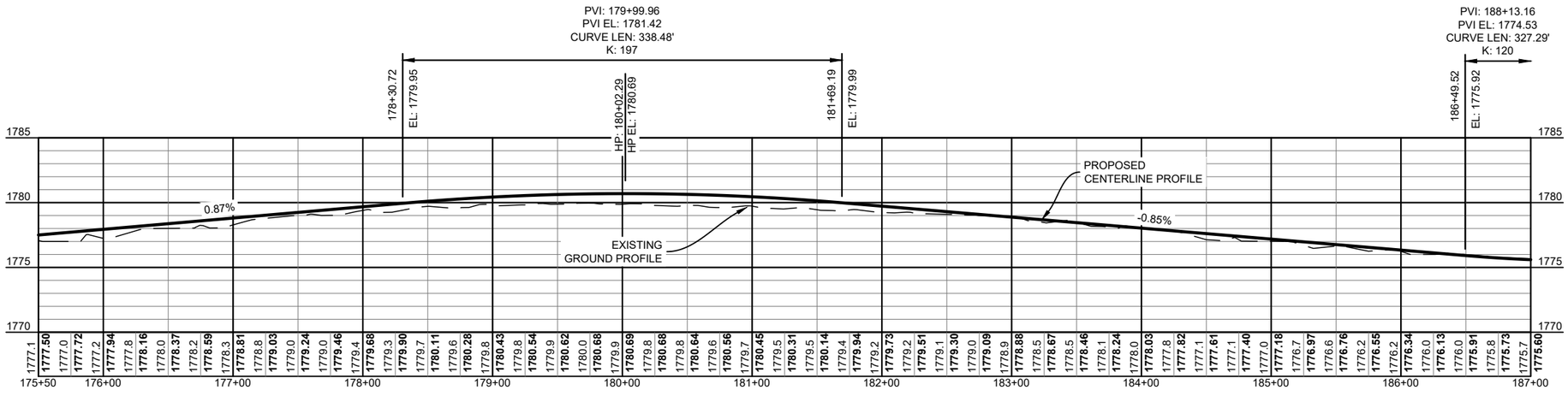
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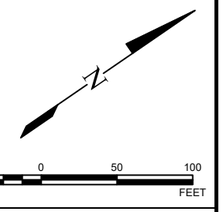
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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	30	238







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BIA 12 Rehabilitation

Cheyenne River Sioux Tribe
Ziebach County, South Dakota

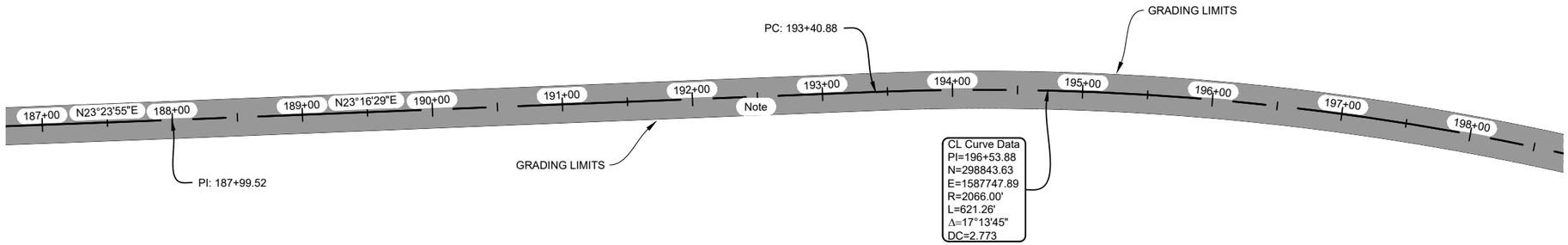
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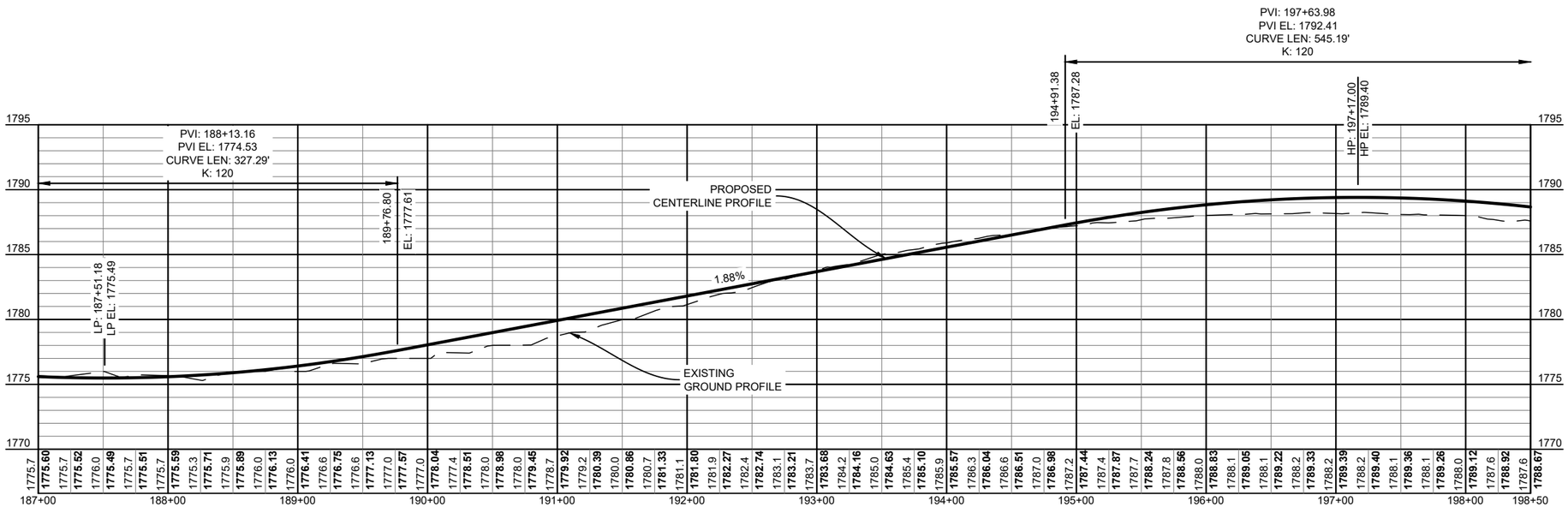
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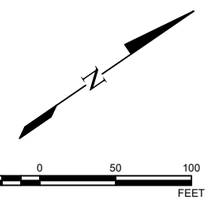
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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	31	238







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BIA 12 Rehabilitation

Cheyenne River Sioux Tribe
Ziebach County, South Dakota

BIA 12 PLAN & PROFILES
STA 187+00 - 198+50

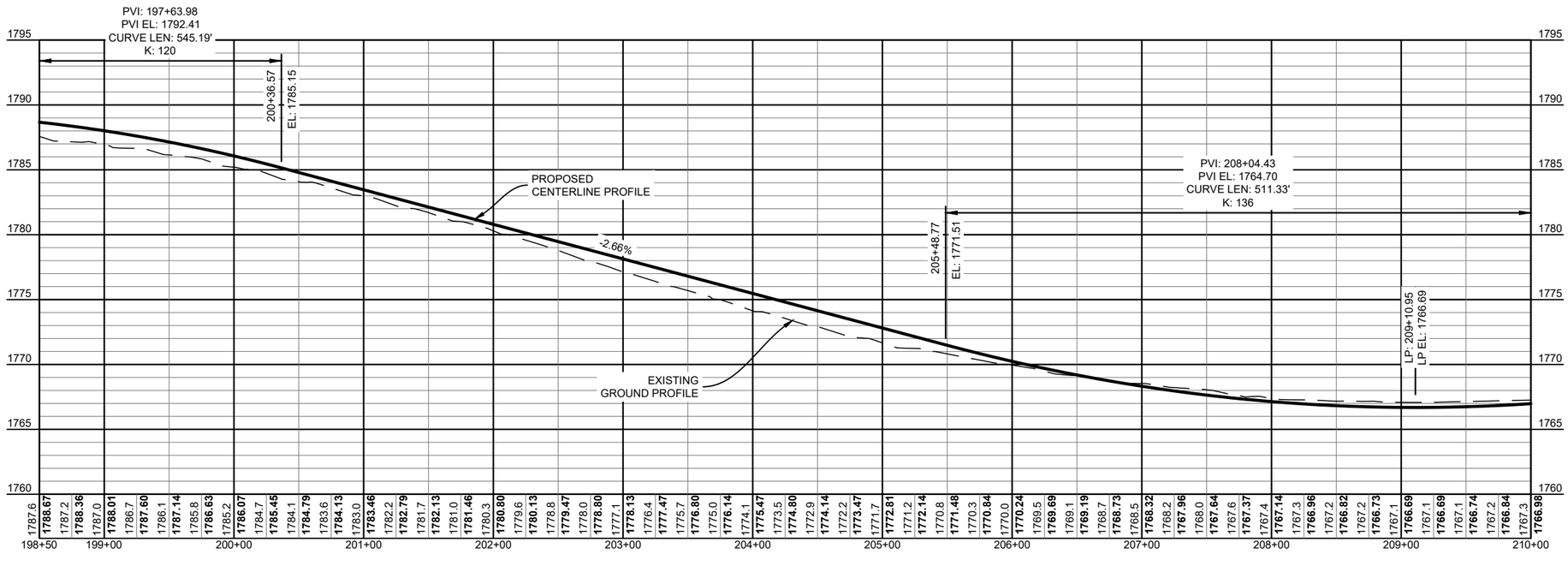
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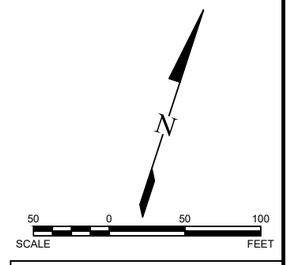
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SD	PCAS # A0111000	32	238







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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

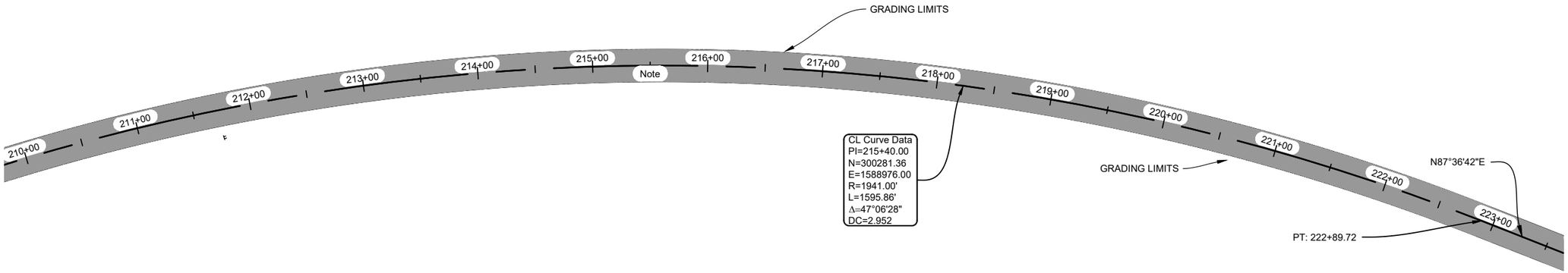
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STA 198+50 - 210+00

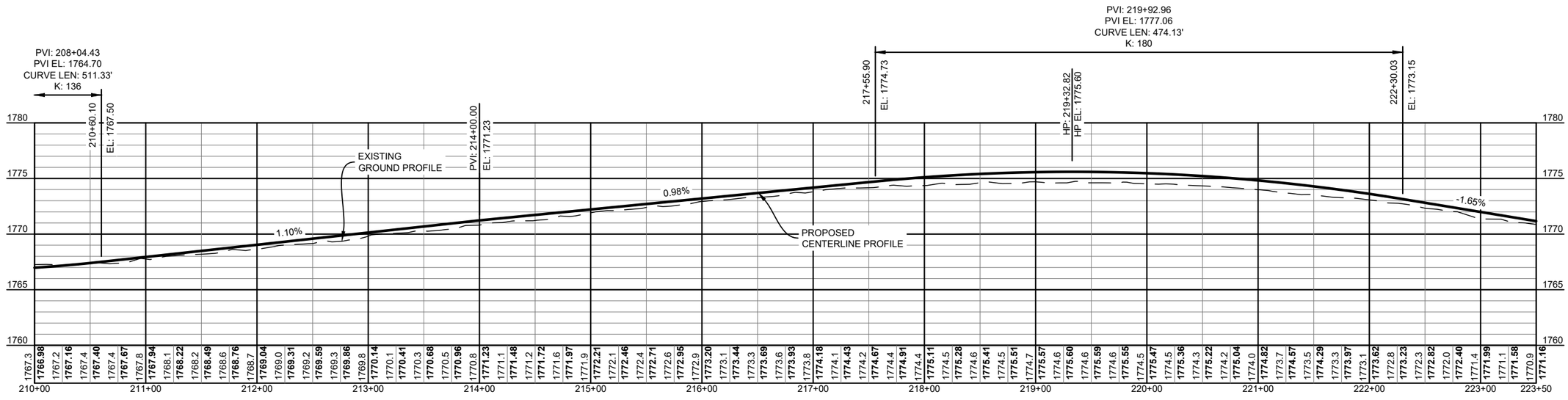
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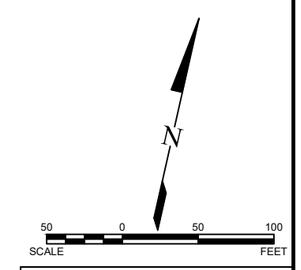
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BIA 12 Rehabilitation
Cheyenne River Sioux Tribe
Ziebach County, South Dakota

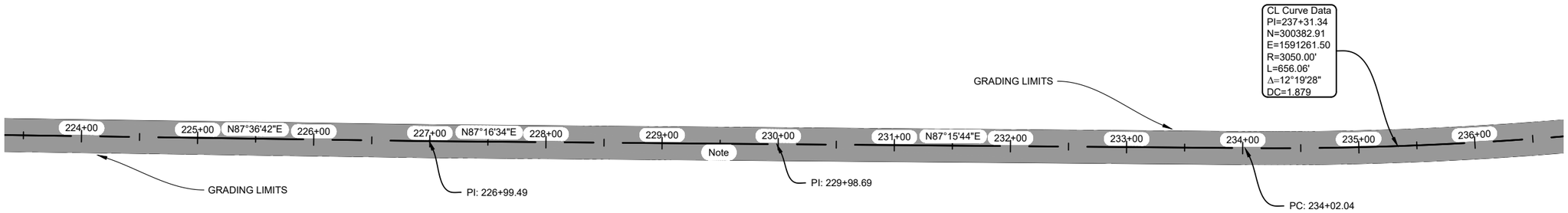
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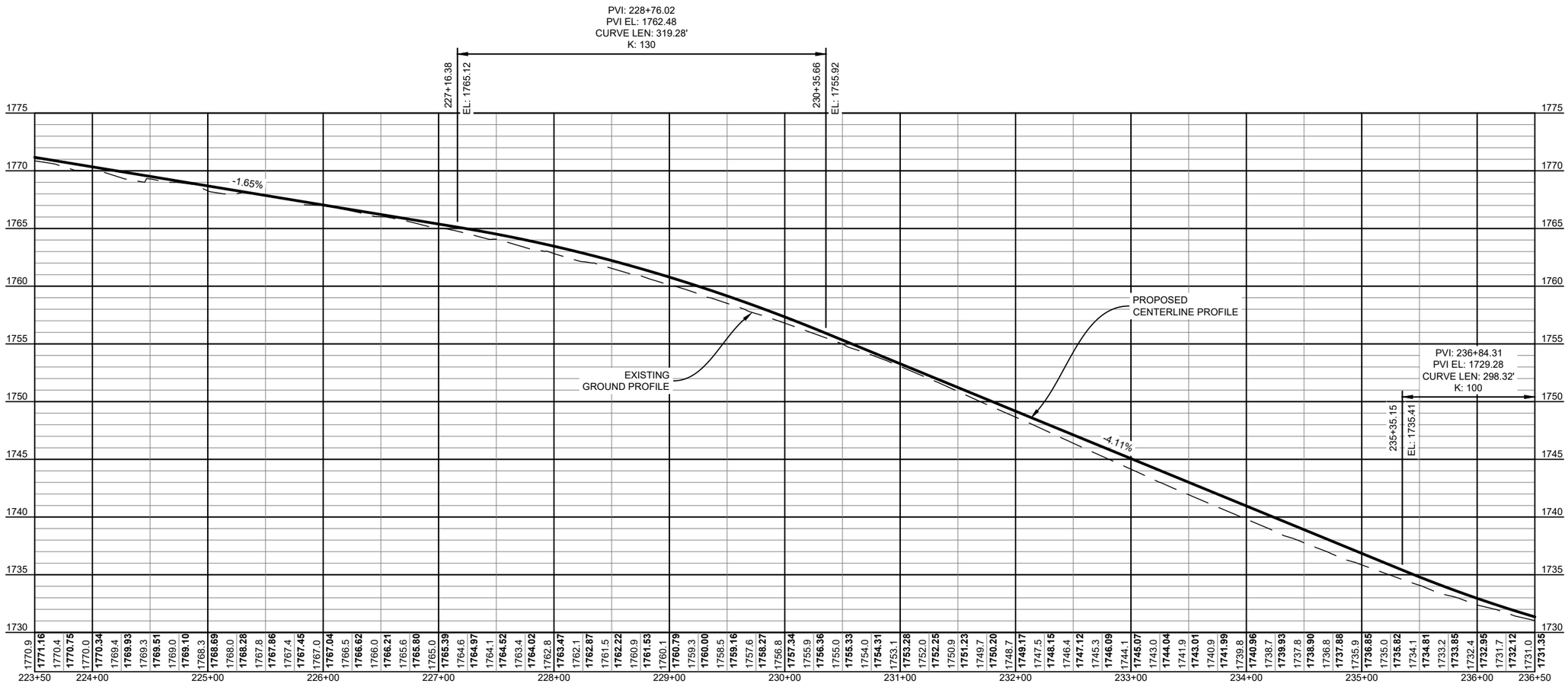
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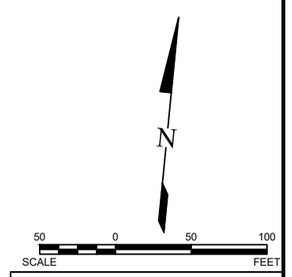
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STATE	PROJECT	SHEET NO.	TOTAL SHEETS
SD	PCAS # A0111000	34	238







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Ziebach County, South Dakota

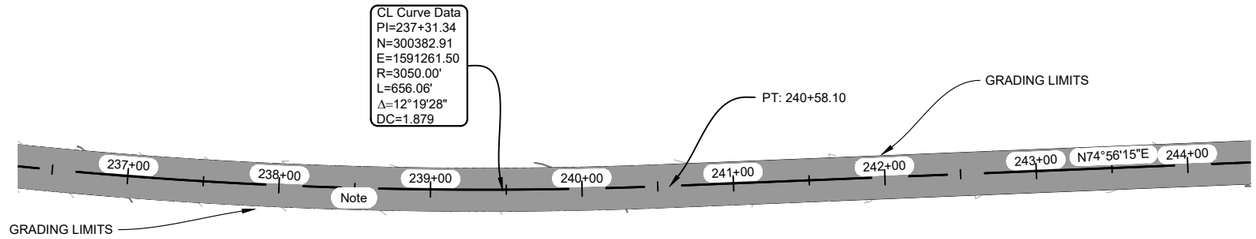
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STA 223+50 - 236+50

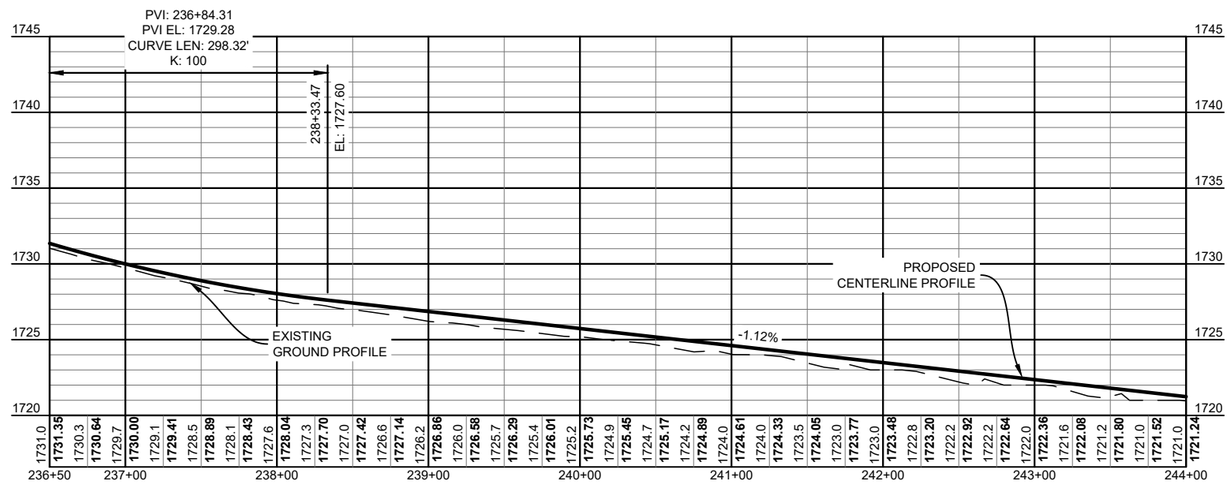
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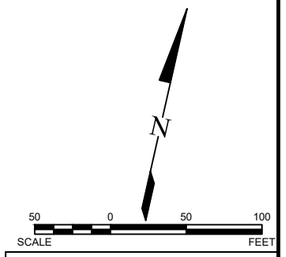
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Ziebach County, South Dakota

BIA 12 PLAN & PROFILES
STA 236+50 - 244+00

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