

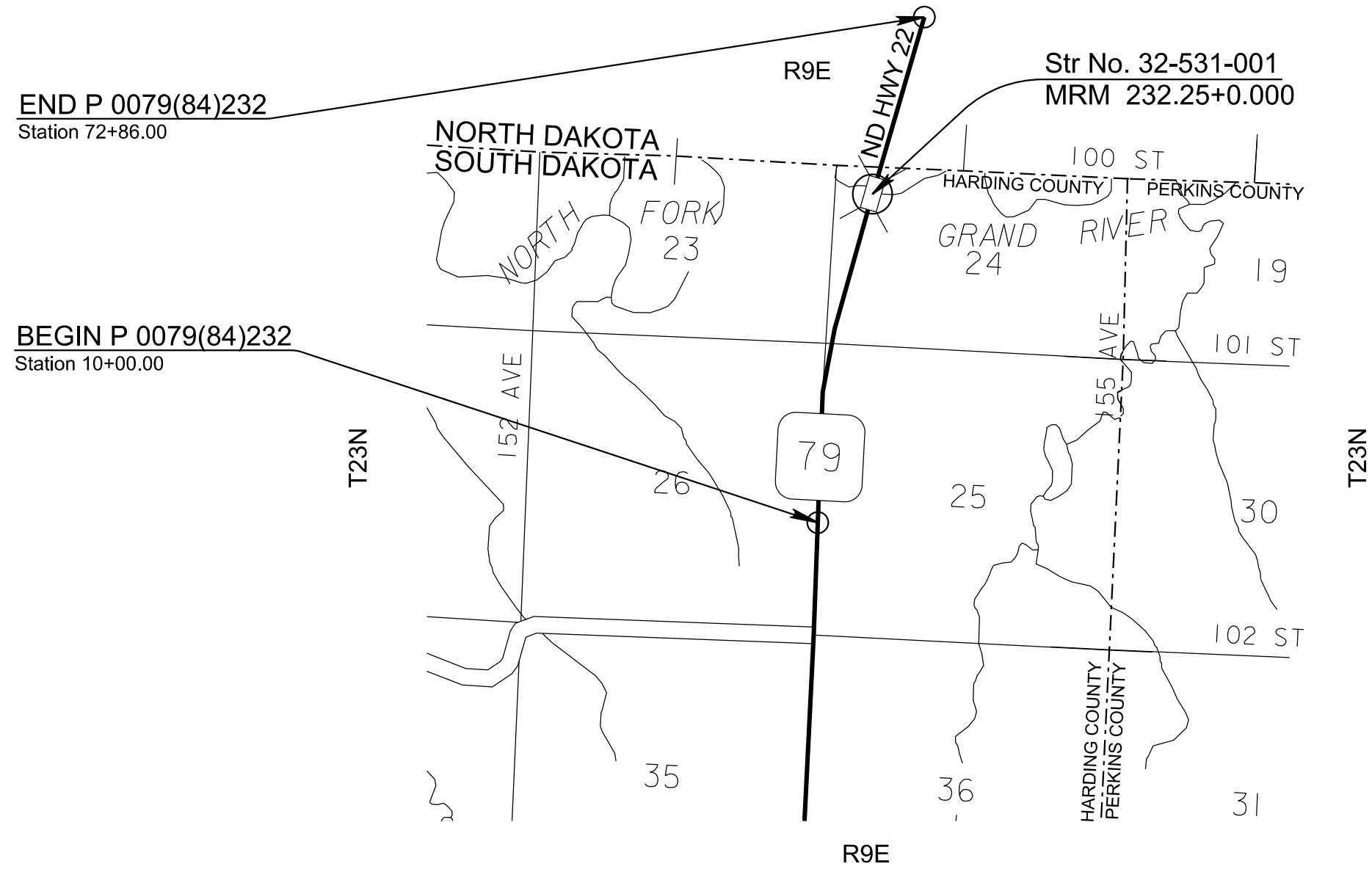
SECTION X: CROSS SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0079(84)232	X1	X19

Plotting Date: 08/15/2024

INDEX OF SHEETS

- X1 General Layout with Index
- X2 Soil Blocks
- X3-X19 Mainline Cross Sections


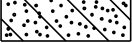

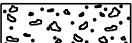


Plot Scale - 1:200

Plotted From - TRPR18163

File - U:\trproj\hard06TD\TitleX.dgn

Soil Legend

- ①  Clay Silt
- ②  Silt Clay
- ③  Clay
- ④  Sandy Clay
- ⑤  Clay Sand
- ⑥  Silty Sand
- ⑦  Sandy Silt
- ⑧  Sand
- ⑨  Silt
- ⑩  Gravel

The soils information presented is representative of the material encountered at the specific bore hole location.

The Geotechnical Engineering Activity has on file all of the boring logs for this project. These logs and additional results of laboratory tests, if any, are available for review at the Central Office in Pierre.

All holes were dry when drilled in May 2022.

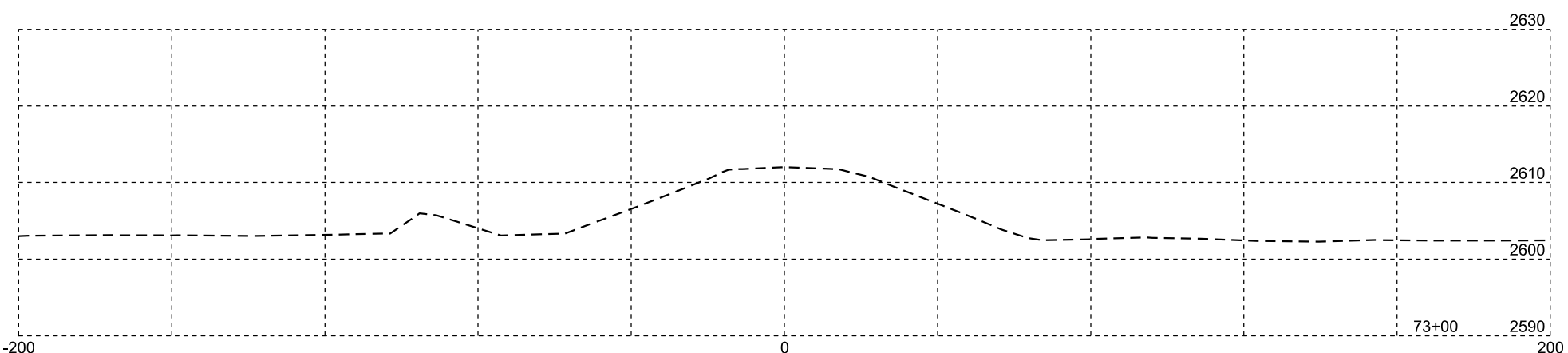
Hole Number	3	3	3	3
Station	40+00	40+00	40+00	40+00
Offset	60'RT	60'RT	60'RT	60'RT
Depth, ft	0-5.0	5.0-10.0	10.0-15.0	15.0-20.0
Moisture Depth, ft	3.0	7.0	11.0	17.0
Moisture, %	21.8	26.7	24.7	27.4
Dry Loose Wt, lbs/cuft	72.2	74.6	74.4	74.4
% Passing 3/8	100.0	100.0	100.0	100.0
% Passing #4	100.0	100.0	100.0	100.0
% Passing #10	100.0	100.0	100.0	99.9
% Passing #40	99.6	99.9	99.8	99.1
% Passing #200	93.3	98.2	97.4	96.0
% Sand	6.7	1.8	2.6	3.9
% Silt	47.1	48.0	49.2	41.9
% Clay	46.2	50.2	48.2	54.1
Liquid Limit	42	49	47	57
Plastic Limit	20	20	19	21
Plasticity Index	22	30	28	36
Soil Color	Light Brown	Brown	Brown	Brown
Textural Class.	Silt Clay	Silt Clay	Silt Clay	Clay
AASHTO Class.	A-7-6 (13)	A-7-6 (18)	A-7-6 (17)	A-7-6 (19)

Hole Number	1	1	1	1	1
Station	19+00	19+00	19+00	19+00	19+00
Offset	90'RT	90'RT	90'RT	90'RT	90'RT
Depth, ft	0-4.5	4.5-10.0	10.0-14.0	14.0-17.0	17.0-20.0
Moisture Depth, ft	3.0	8.0	12.0	16.0	17.0
Moisture, %	10.5	15.9	46.8	21.1	8.7
Dry Loose Wt, lbs/cuft	76.1	69.9	67.4	69.0	74.4
% Passing 3/8	100.0	100.0	100.0	100.0	100.0
% Passing #4	100.0	100.0	100.0	100.0	100.0
% Passing #10	100.0	100.0	100.0	100.0	100.0
% Passing #40	93.5	99.5	98.3	99.5	99.7
% Passing #200	50.3	52.4	62.6	56.9	31.5
% Sand	49.7	47.6	37.4	43.1	68.5
% Silt	26.1	18.2	26.2	16.5	13.1
% Clay	24.2	34.2	36.4	40.4	18.4
Liquid Limit	0	40	50	48	0
Plastic Limit	0	18	28	18	0
Plasticity Index	NP	23	22	30	NP
Soil Color	Brown	Brown	Brown	Charcoal	Brown
Textural Class.	Clay Sand	Sandy Clay	Sandy Clay	Sandy Clay	Silty Sand
AASHTO Class.	A-4 (3)	A-6 (8)	A-7-6 (12)	A-7-6 (13)	A-2-4 (0)

Hole Number	2	2	2	2	2	2
Station	26+00	26+00	26+00	26+00	26+00	26+00
Offset	120'RT	120'RT	120'RT	120'RT	120'RT	120'RT
Depth, ft	0-5.0	5.0-10.0	10.0-15.0	15.0-20.0	20.0-25.0	25.0-30.0
Moisture Depth, ft	3.0	8.0	12.0	18.0	22.0	27.0
Moisture, %	13.7	16.0	20.3	21.0	29.5	16.2
Dry Loose Wt, lbs/cuft	73.1	69.5	68.8	67.7	65.5	71.1
% Passing 3/8	100.0	100.0	100.0	100.0	100.0	100.0
% Passing #4	100.0	100.0	100.0	100.0	100.0	100.0
% Passing #10	99.7	100.0	100.0	100.0	100.0	100.0
% Passing #40	96.2	99.5	99.9	99.5	98.2	99.8
% Passing #200	50.0	49.9	55.2	57.5	63.0	45.6
% Sand	49.7	50.1	44.8	42.5	37.0	54.4
% Silt	21.9	15.7	15.0	17.3	20.8	23.4
% Clay	28.1	34.2	40.2	40.2	42.2	22.2
Liquid Limit	33	40	48	47	51	0
Plastic Limit	19	18	18	20	23	0
Plasticity Index	14	22	30	27	28	NP
Soil Color	Light Brown	Brown	Brown	Brown	Charcoal	Brown
Textural Class.	Clay Sand	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Clay Sand
AASHTO Class.	A-6 (4)	A-6 (7)	A-7-6 (13)	A-7-6 (12)	A-7-6 (14)	A-4 (2)

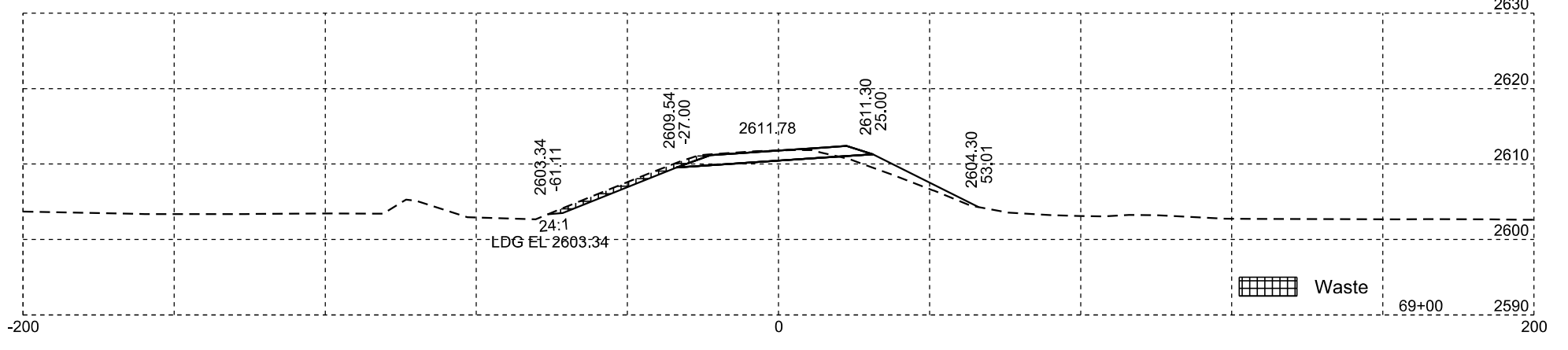
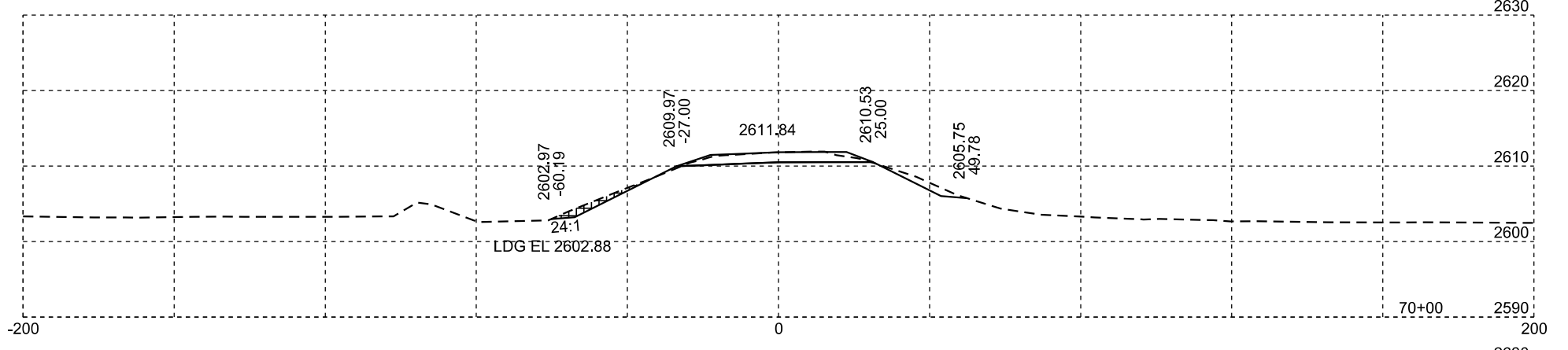
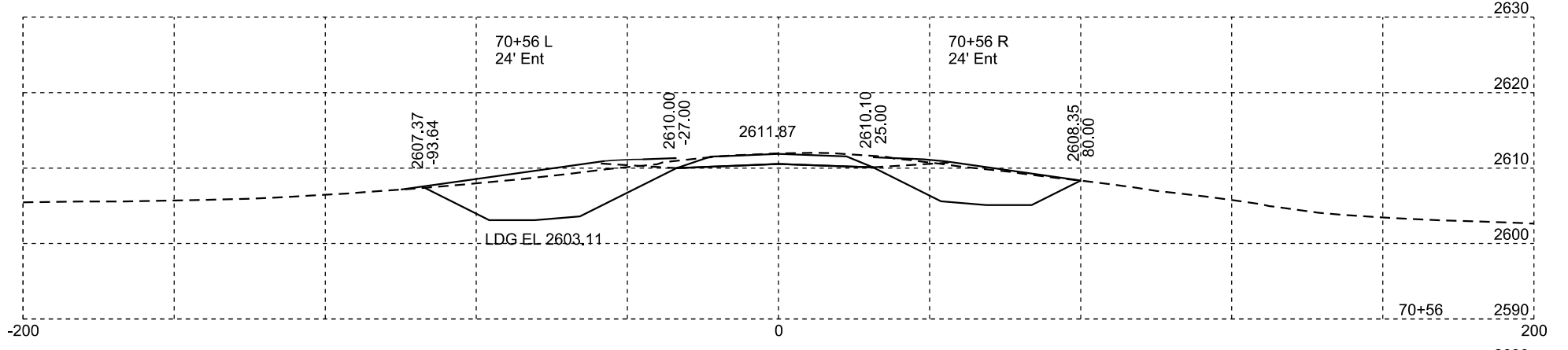
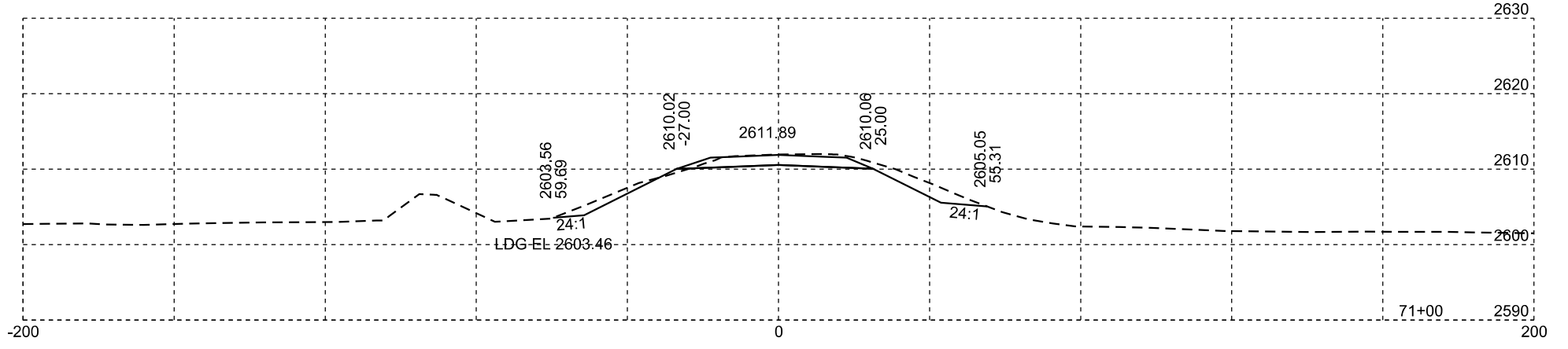
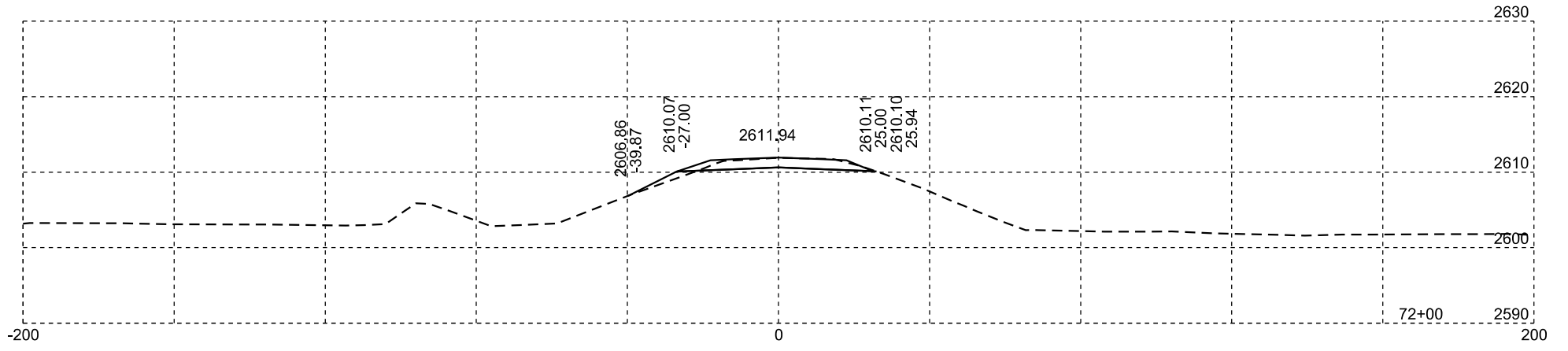
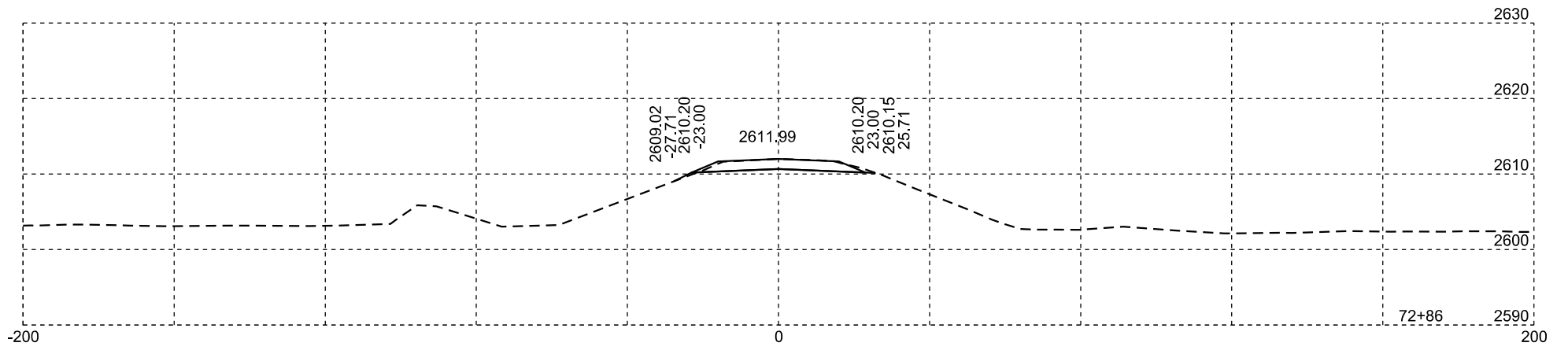
Plotting Date: 07-30-2020

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X2	X19



Plotting Date: 08/15/2024

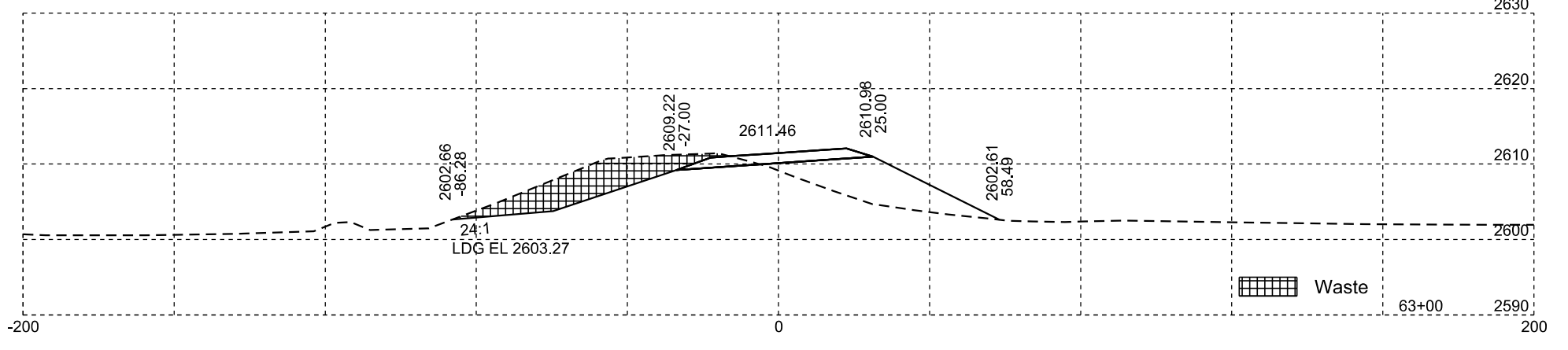
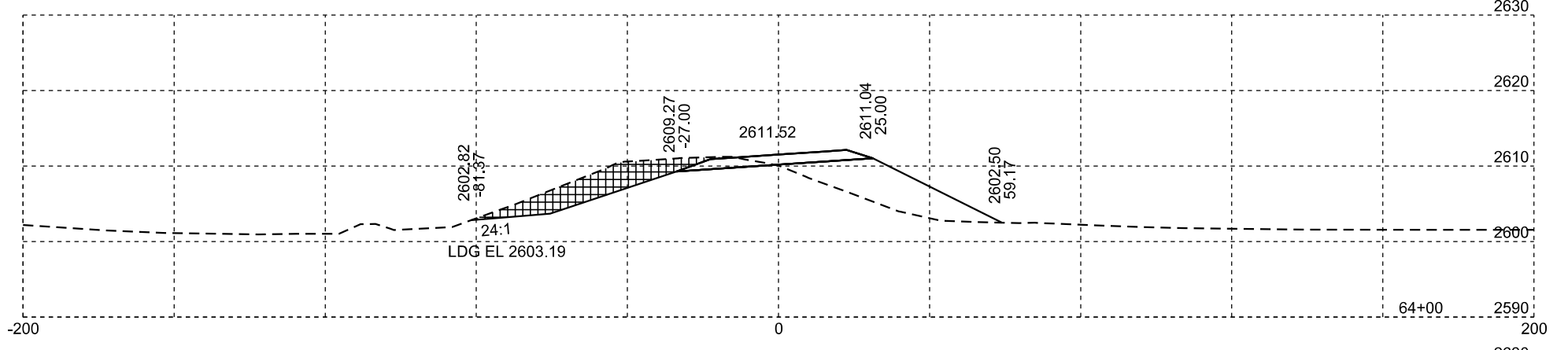
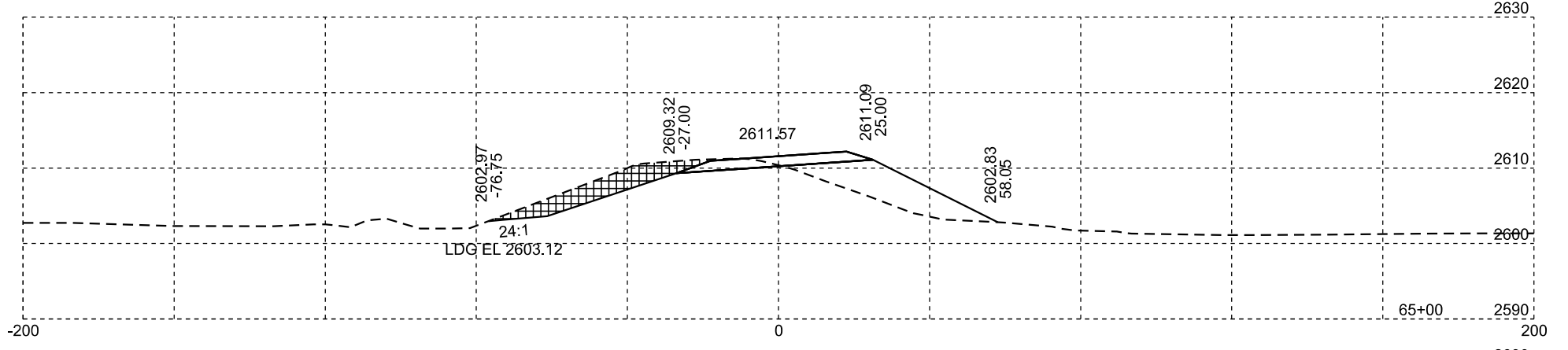
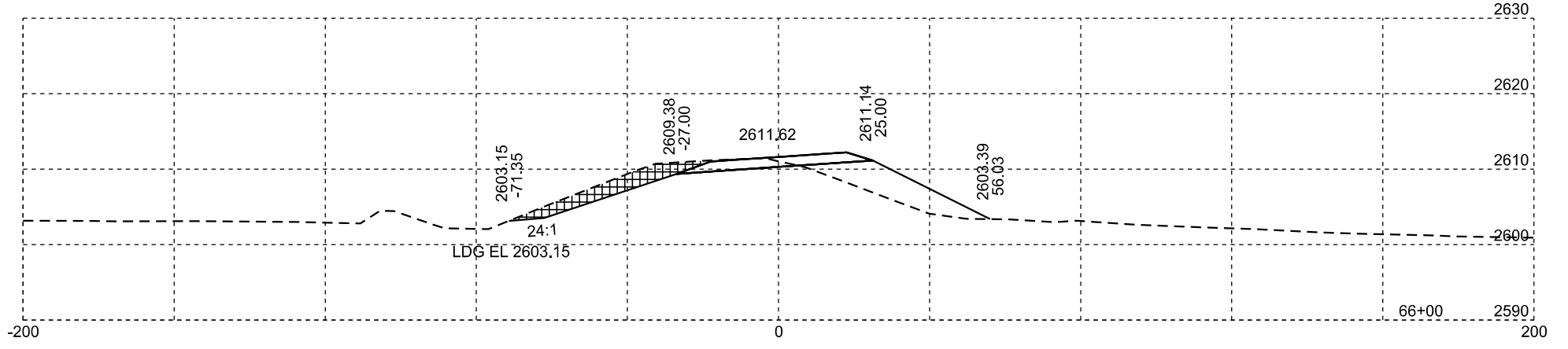
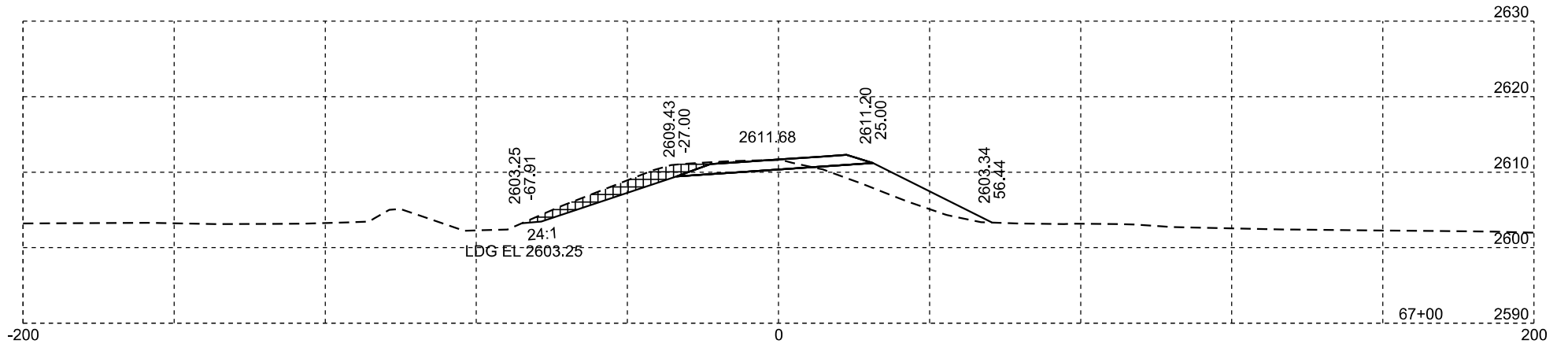
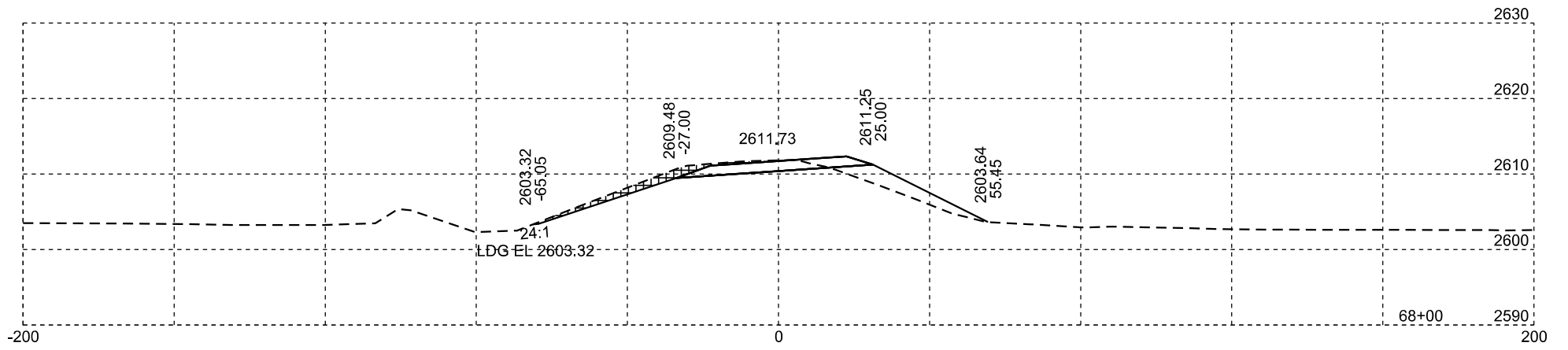
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X3	X19



 Waste

Plotting Date: 08/15/2024

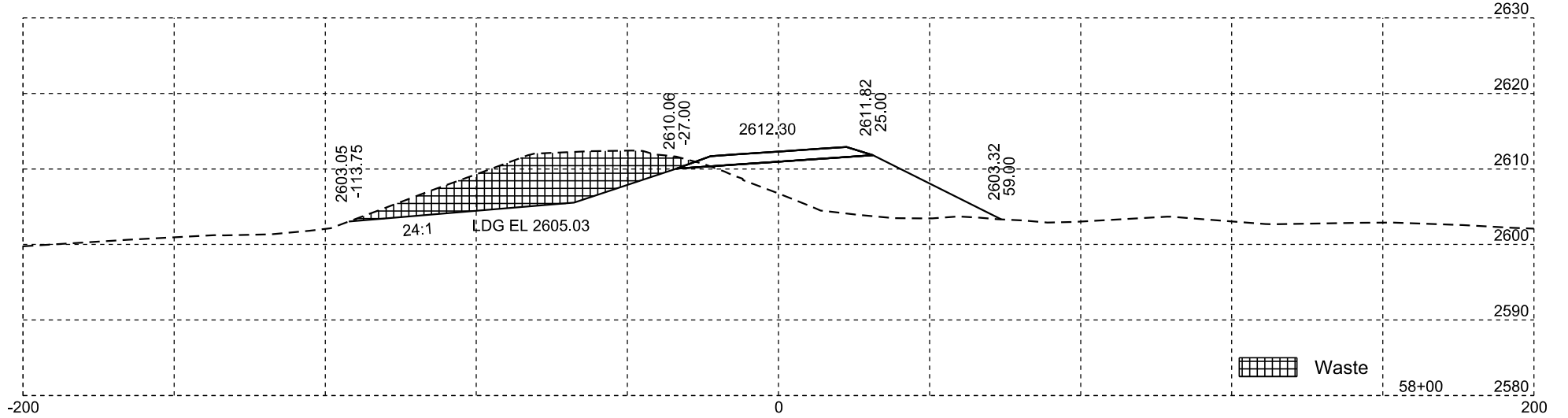
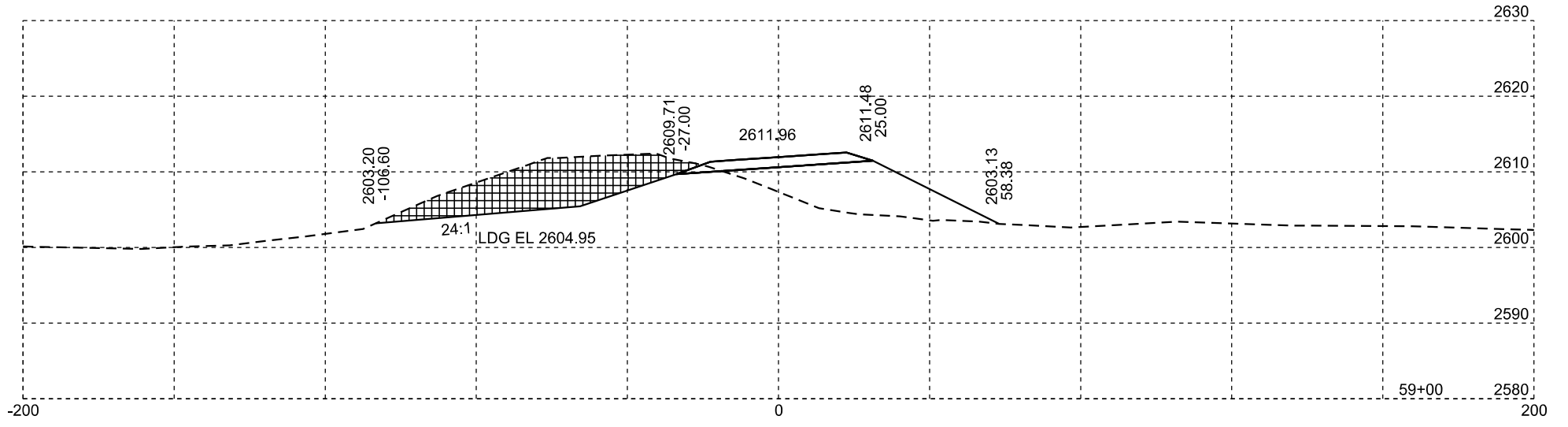
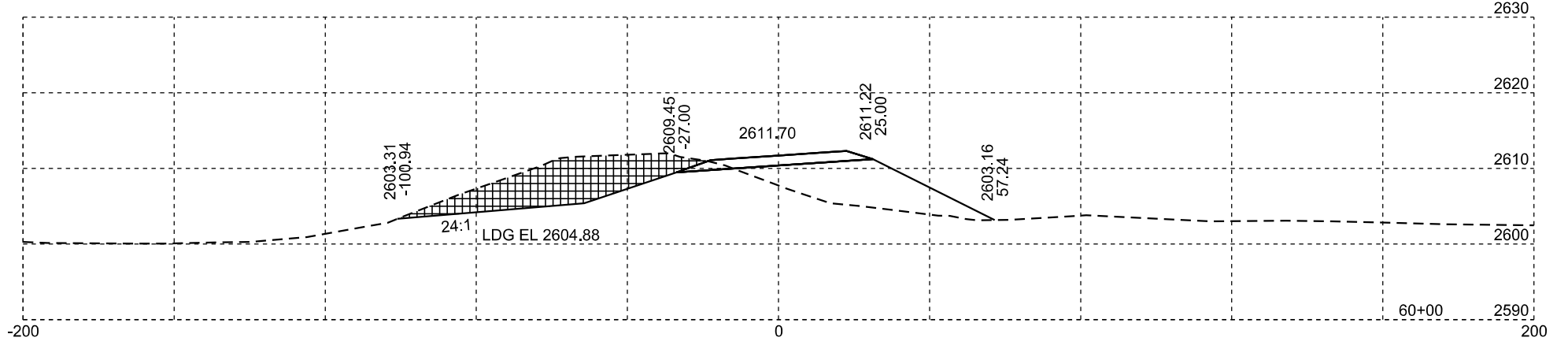
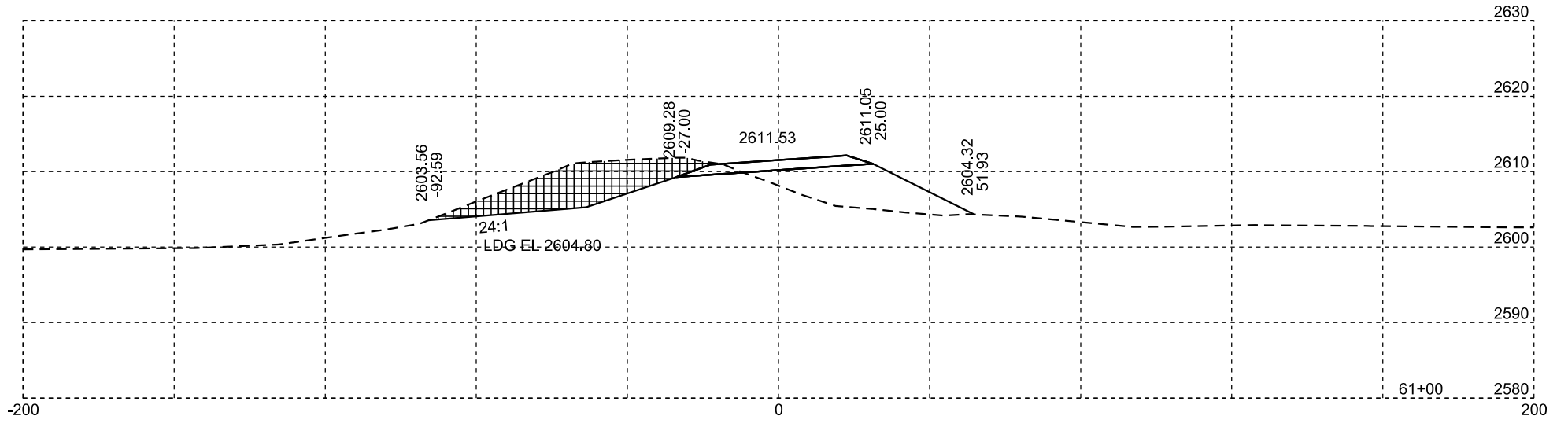
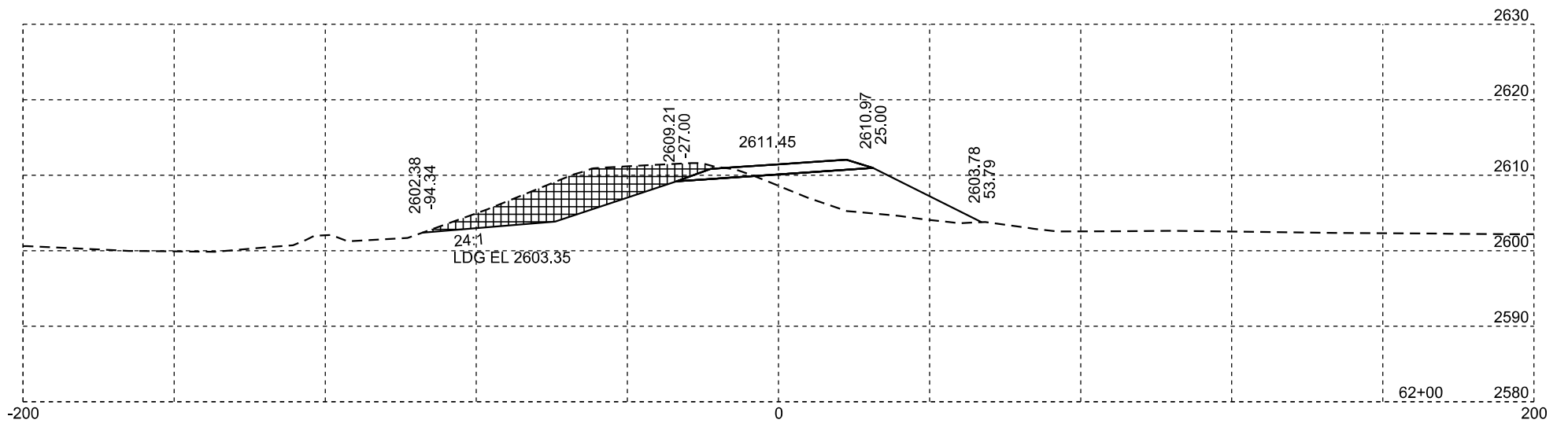
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X4	X19



Waste

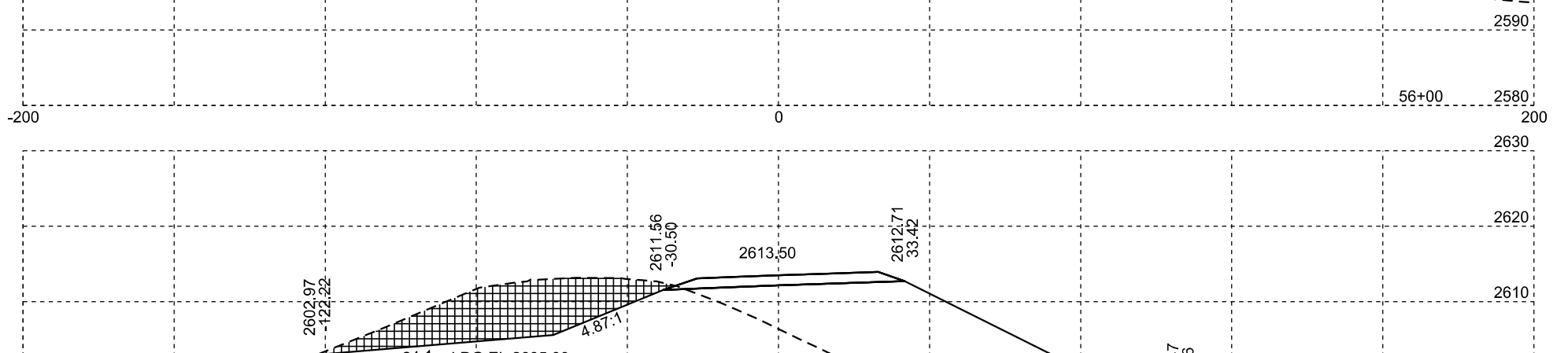
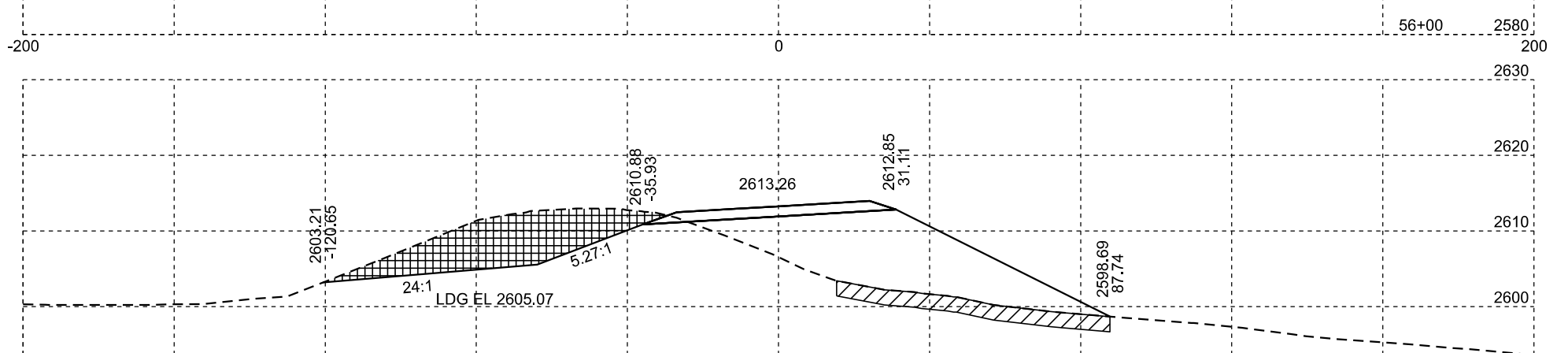
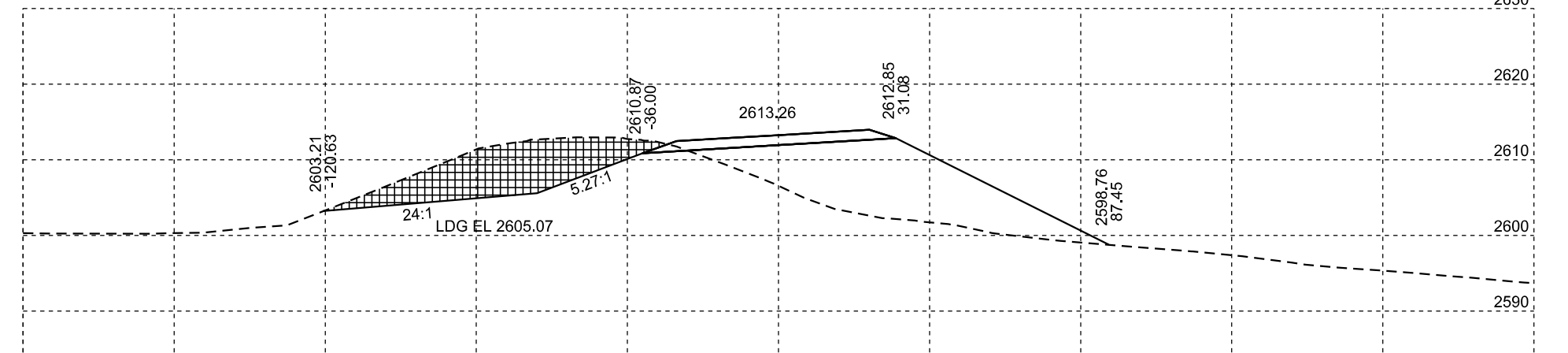
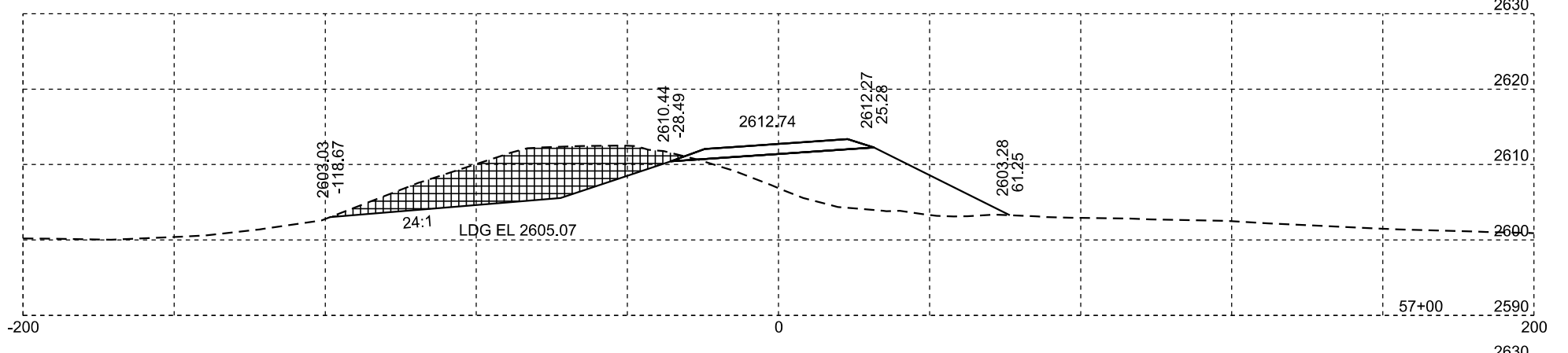
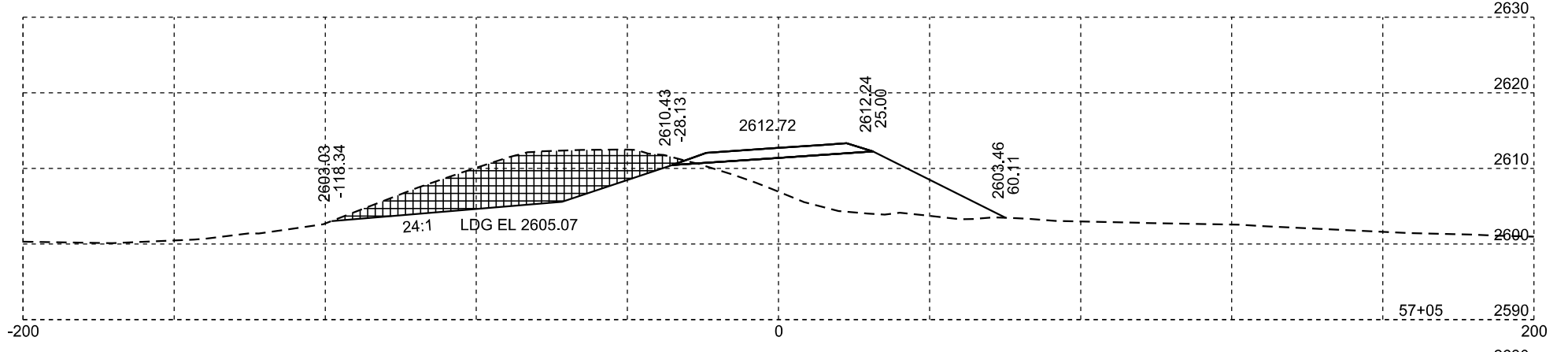
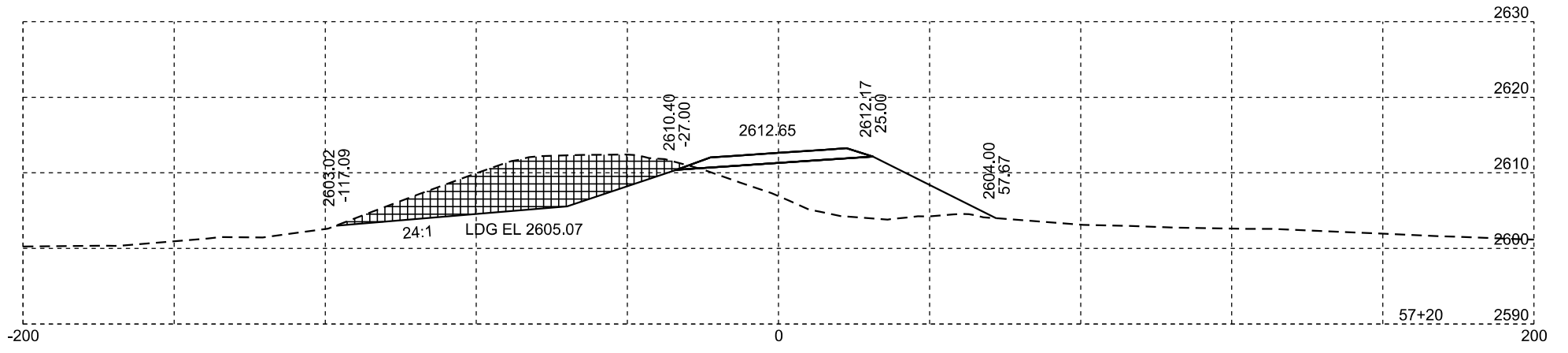
Plotting Date: 08/15/2024

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X5	X19



Plotting Date: 08/15/2024

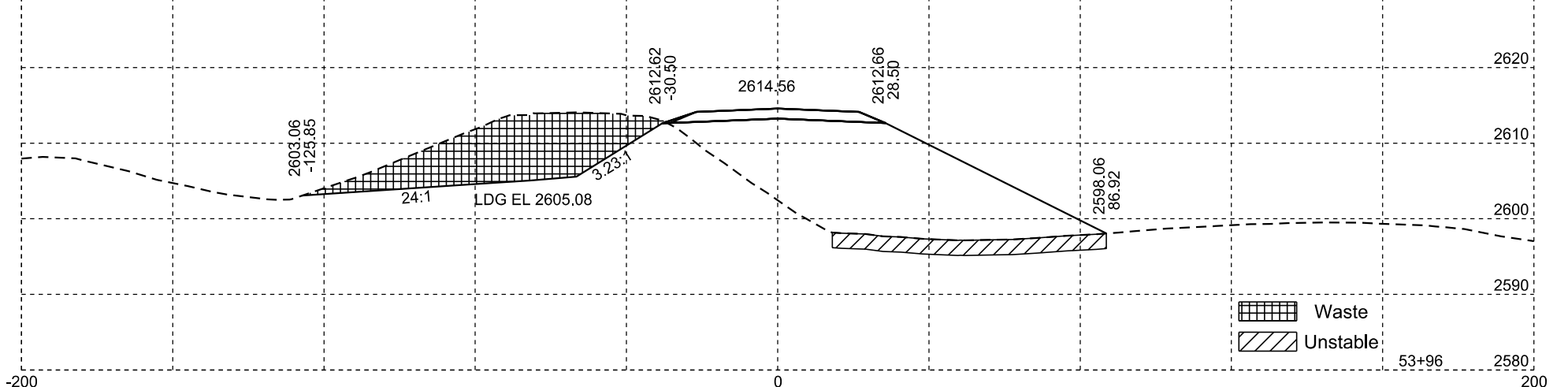
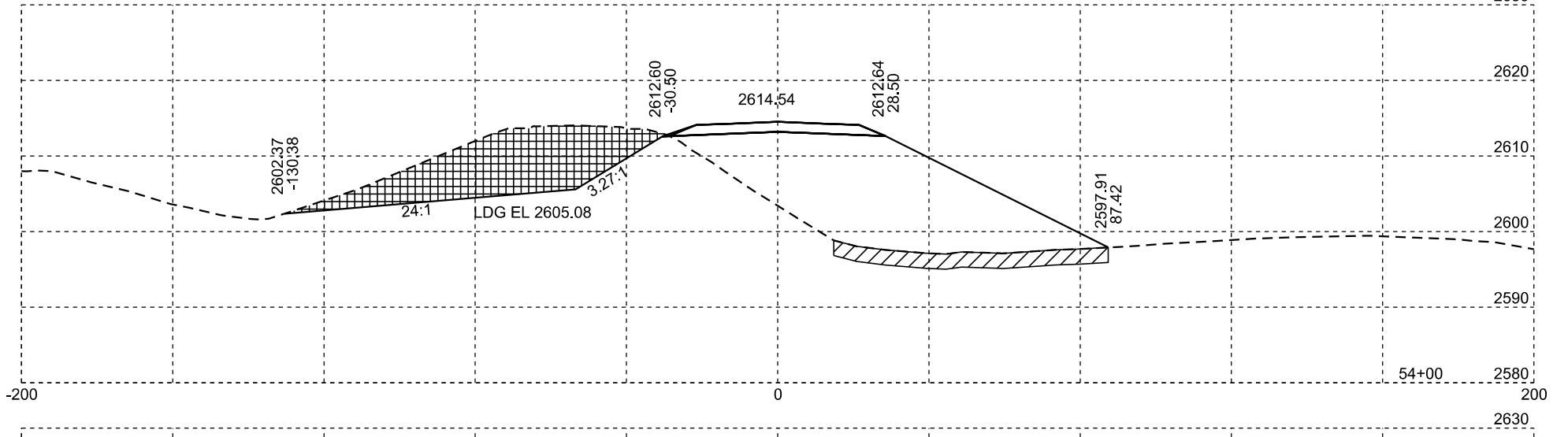
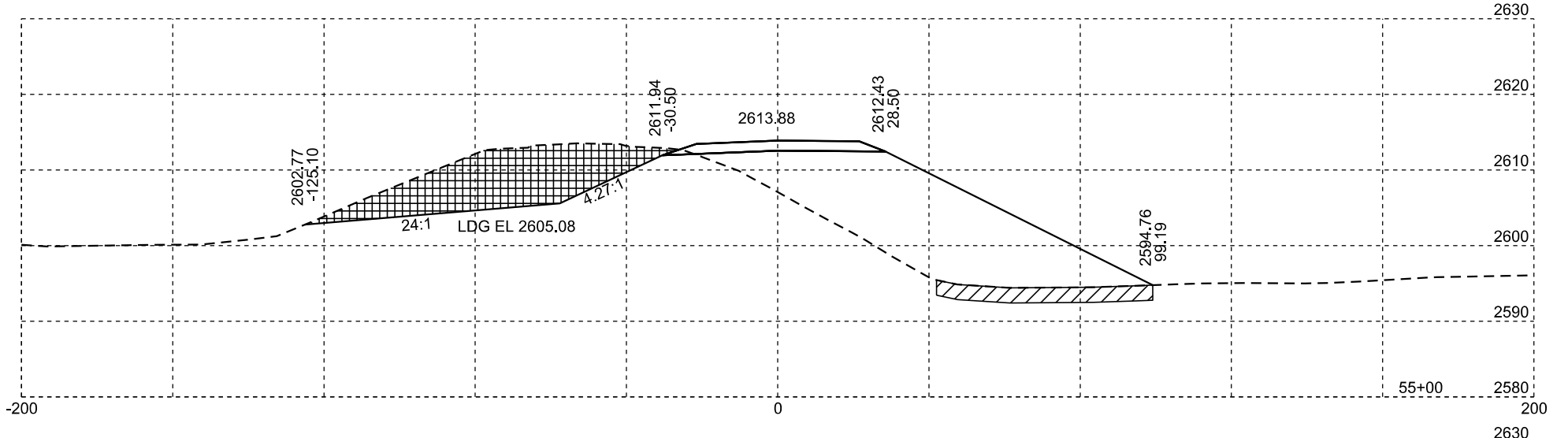
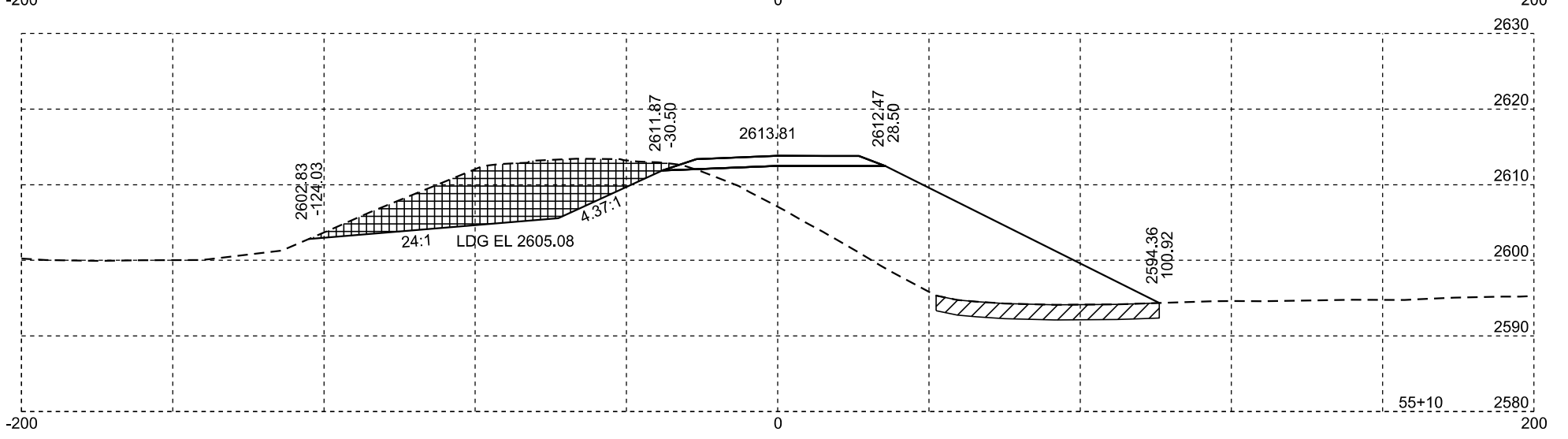
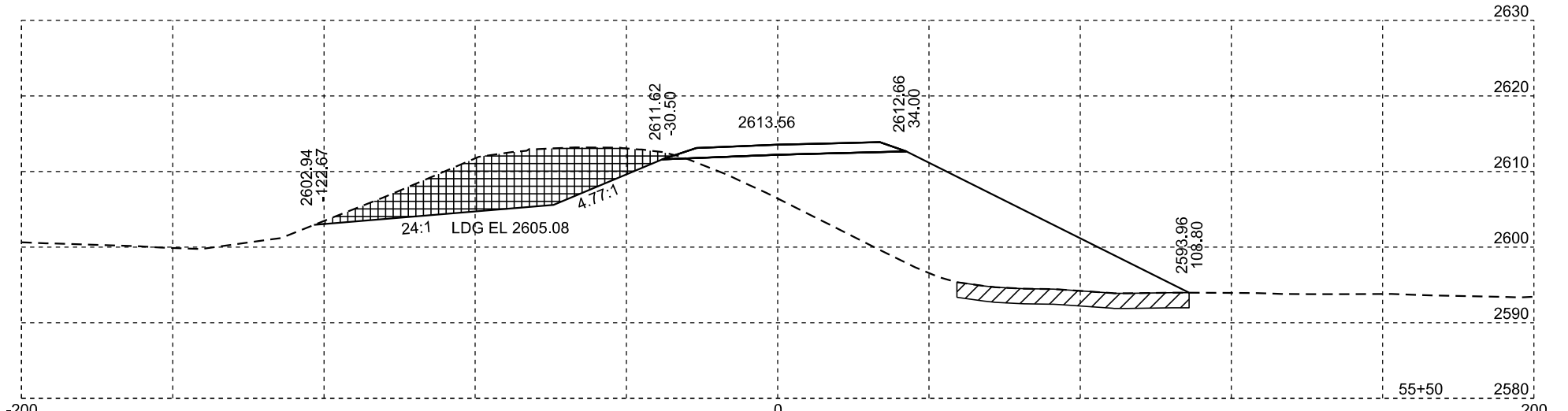
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X6	X19



Waste
 Unstable

Plotting Date: 08/15/2024

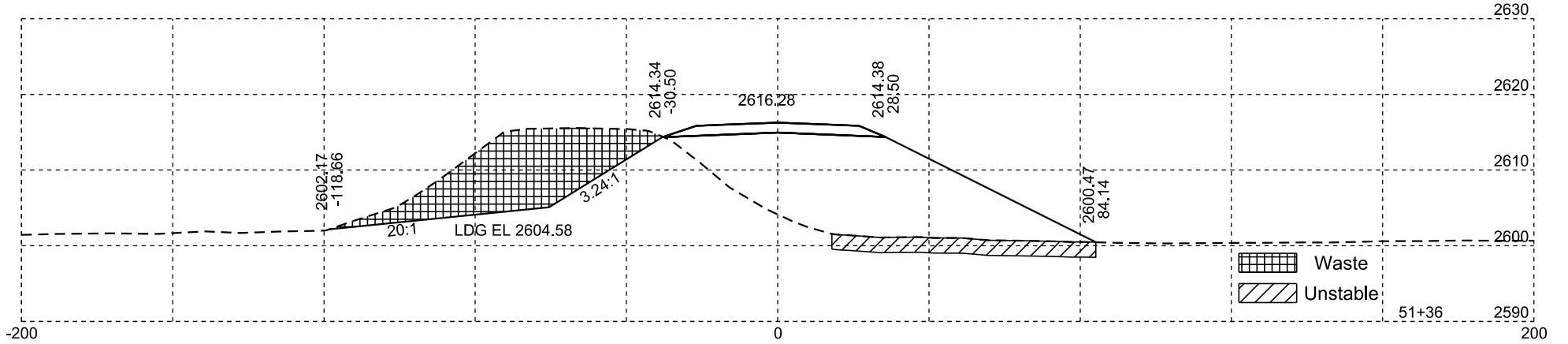
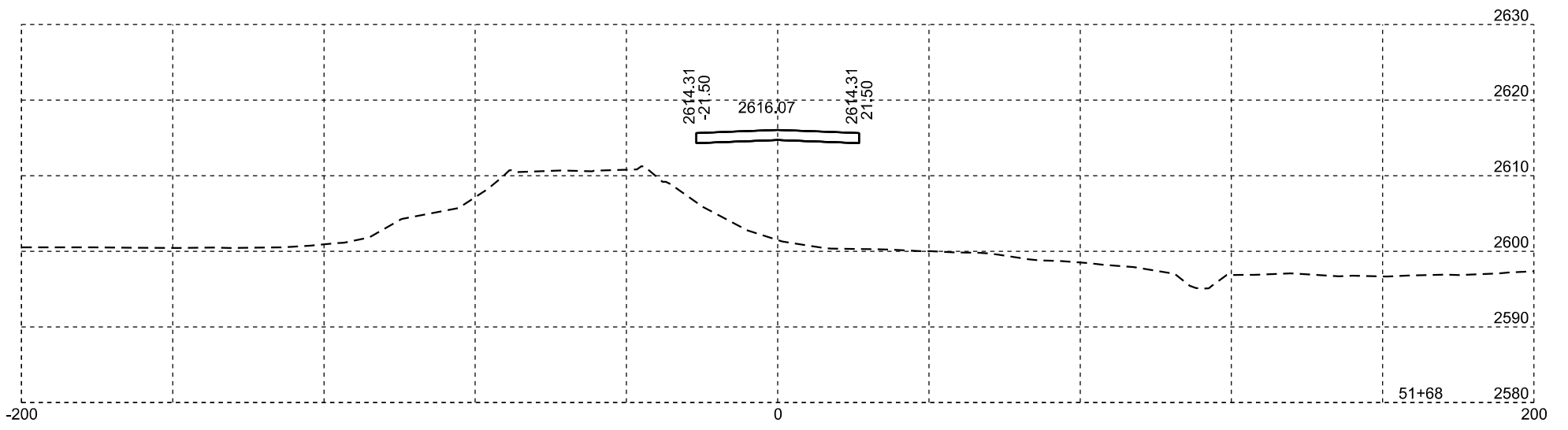
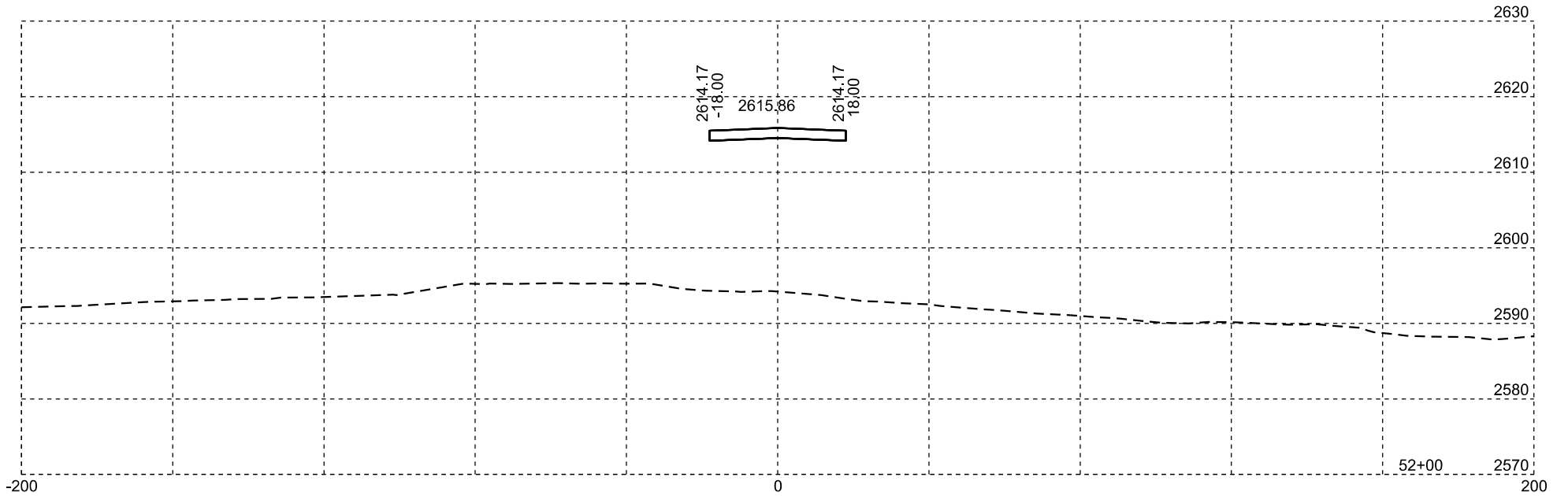
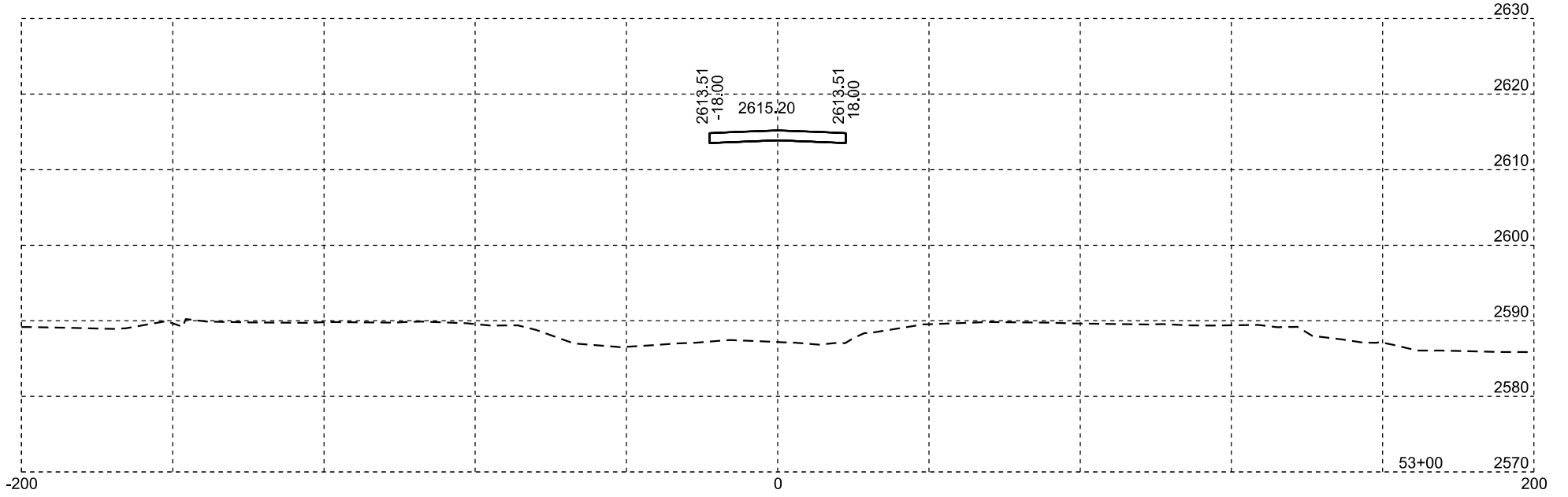
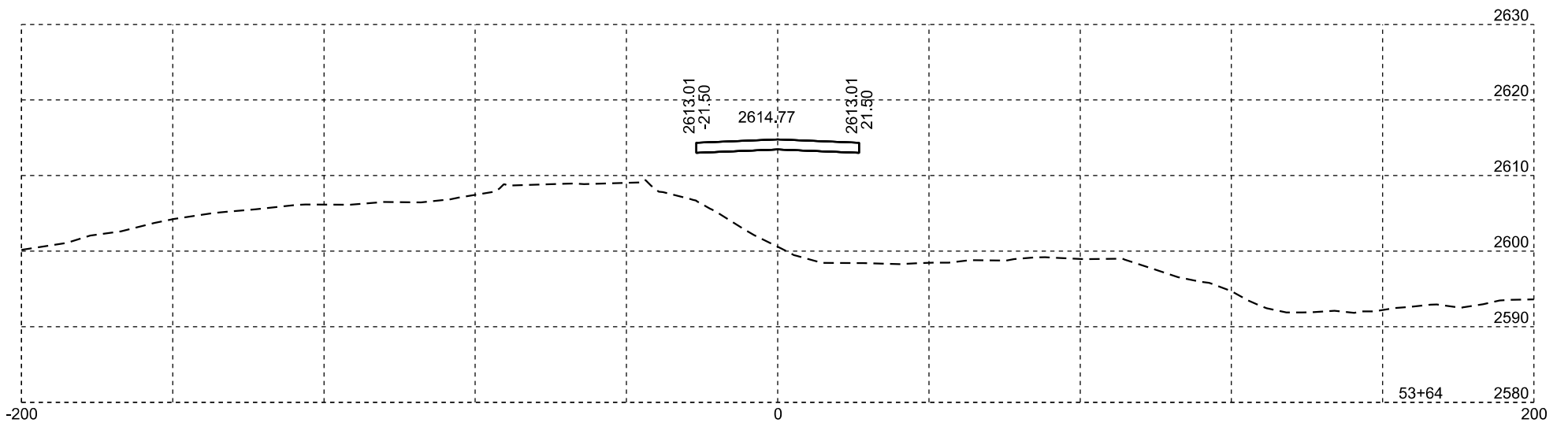
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X7	X19



Waste
 Unstable

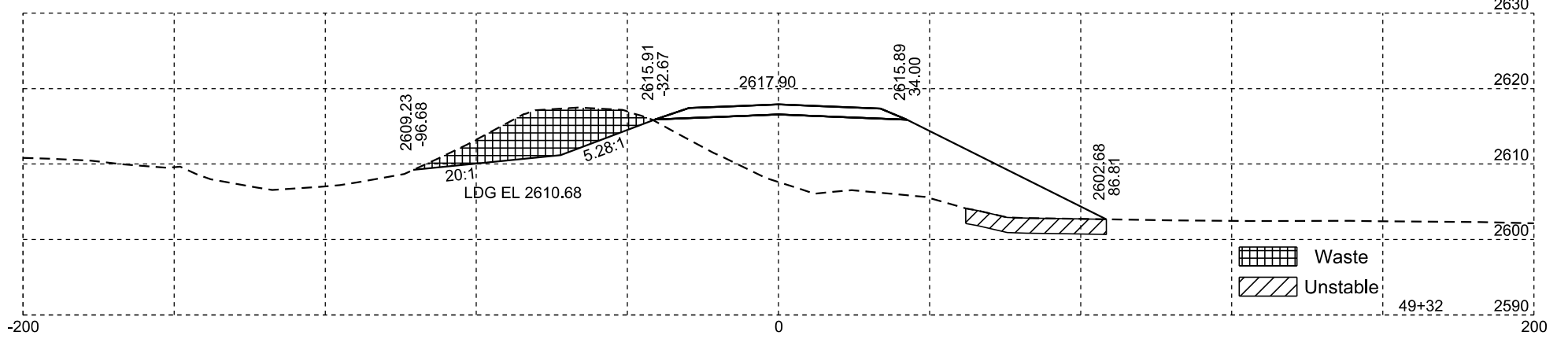
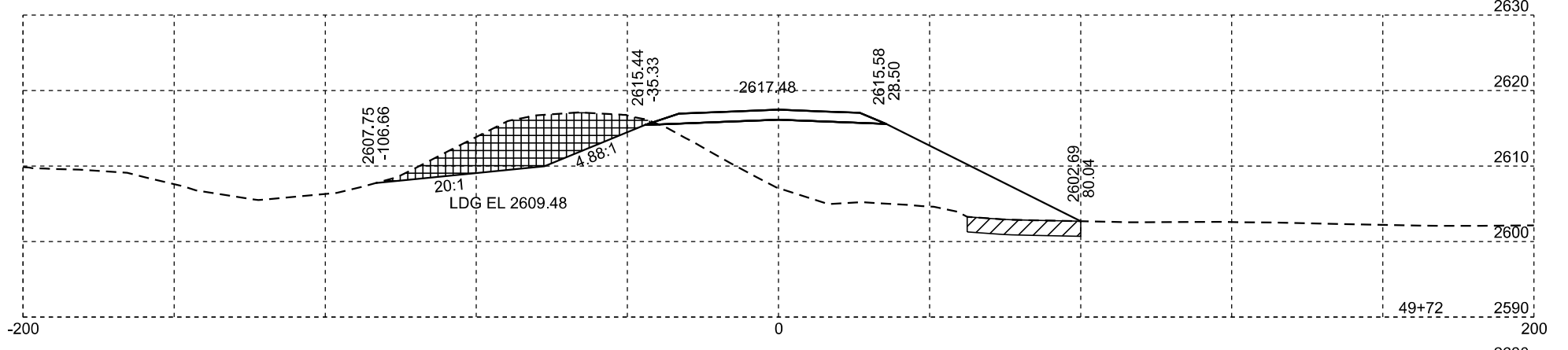
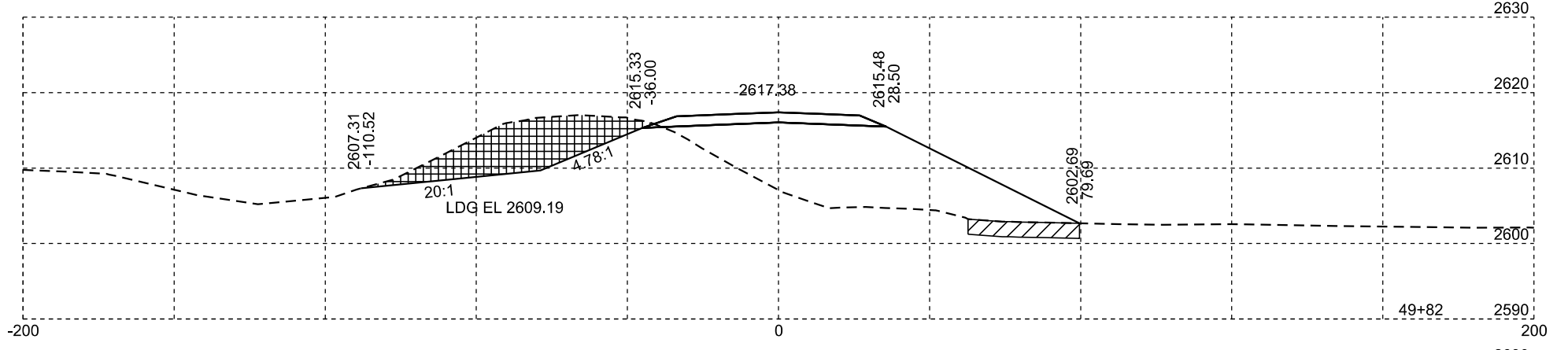
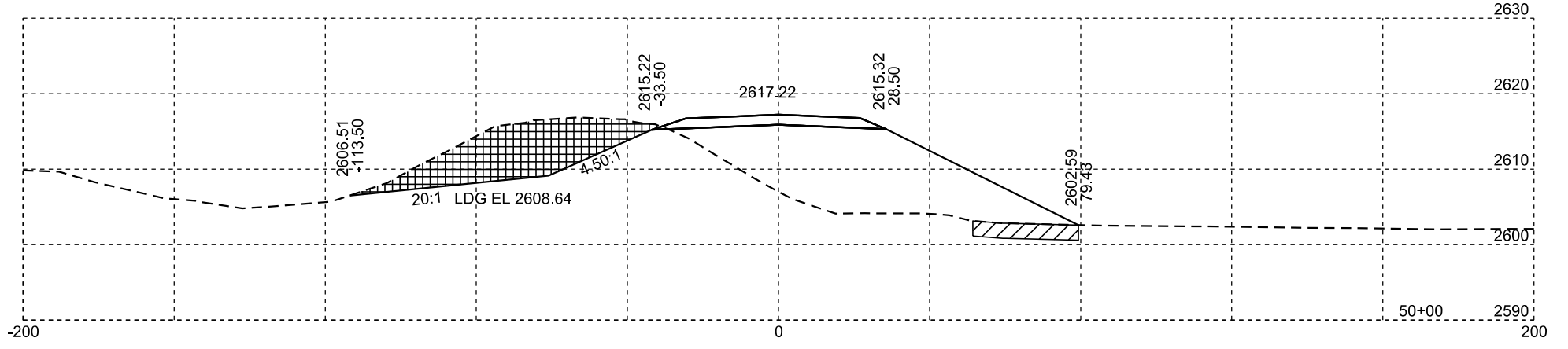
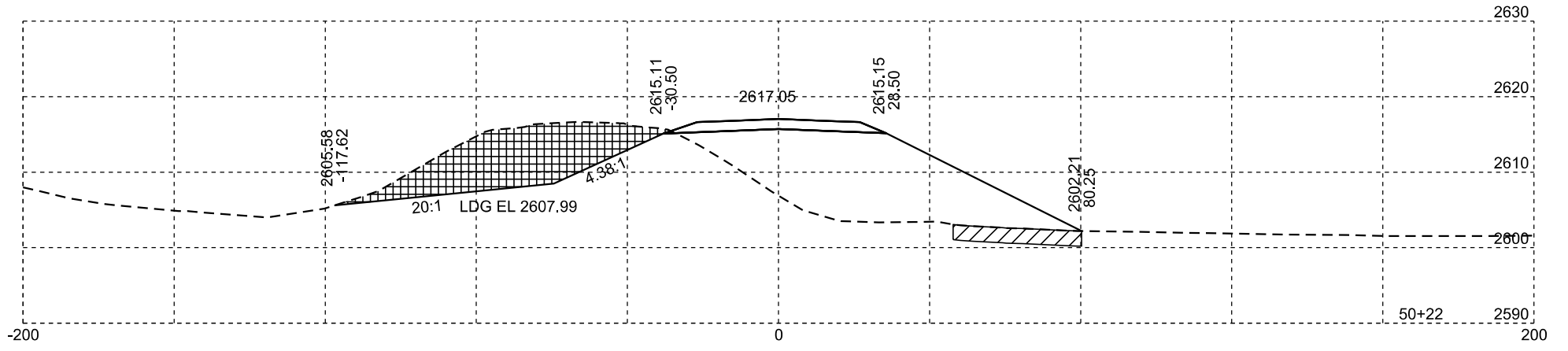
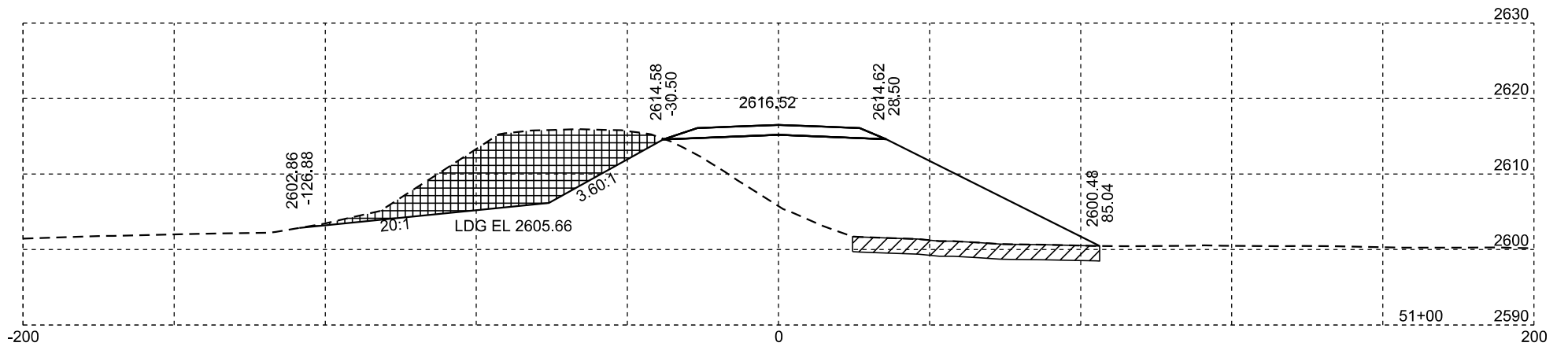
Plotting Date: 08/15/2024

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X8	X19



Plotting Date: 08/15/2024

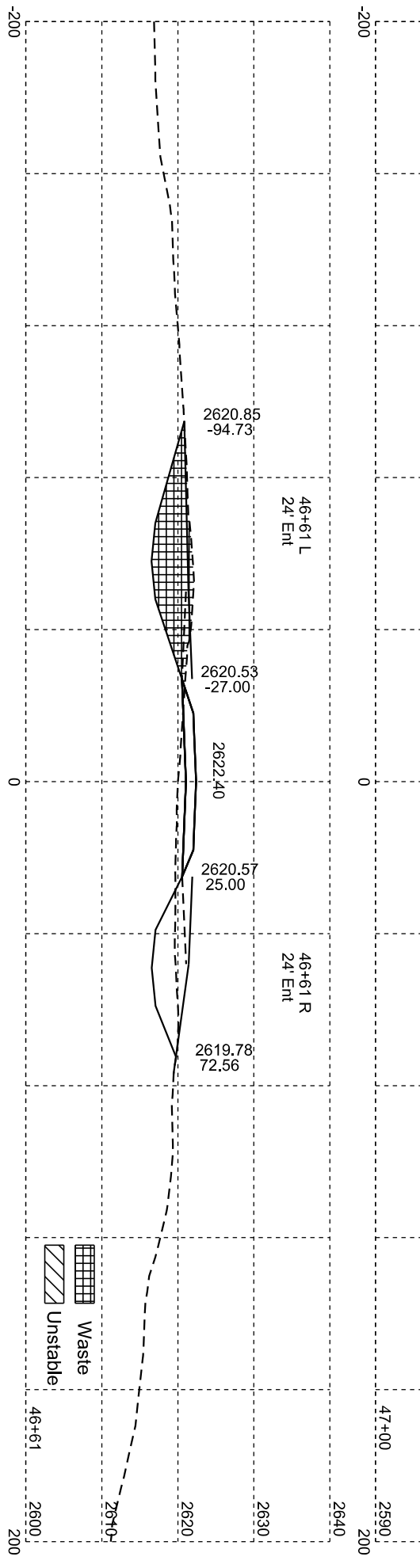
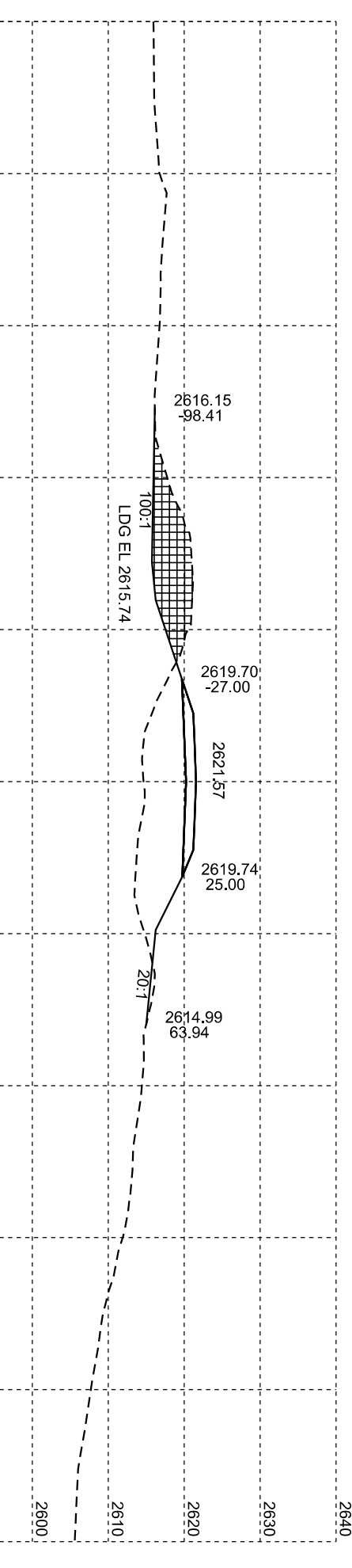
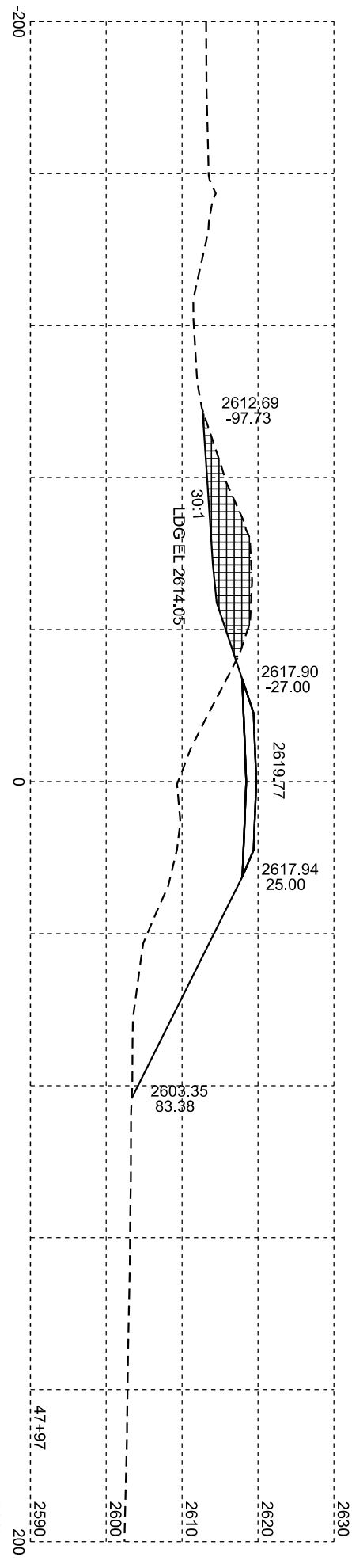
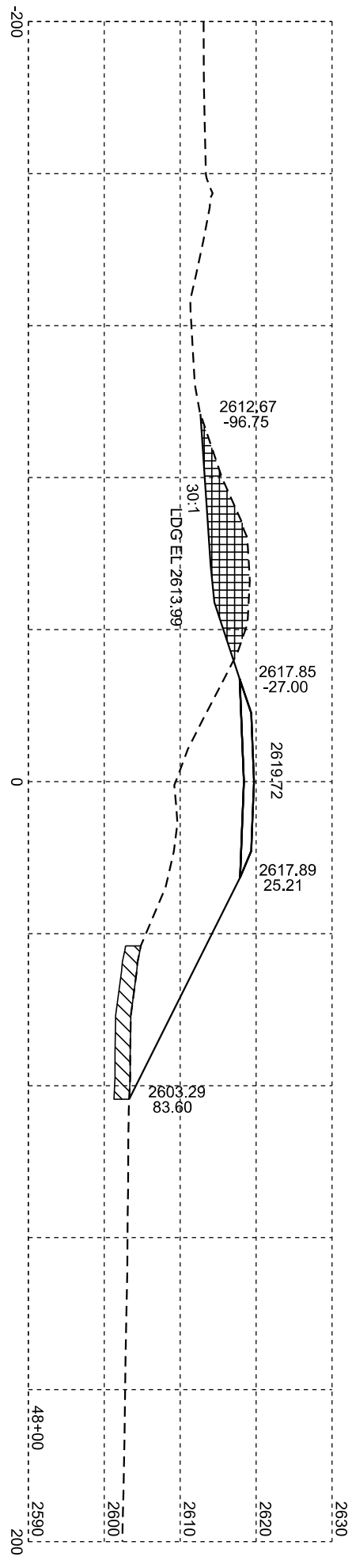
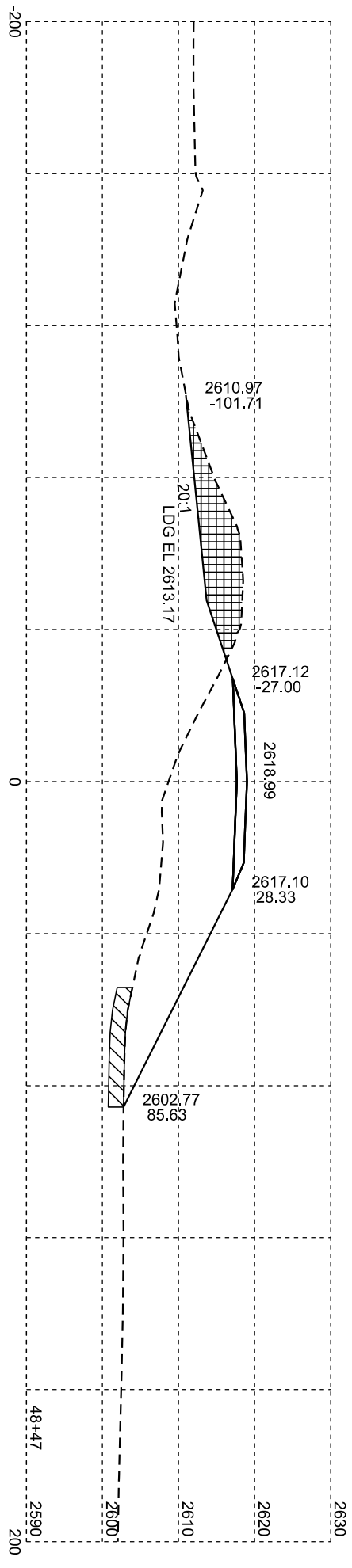
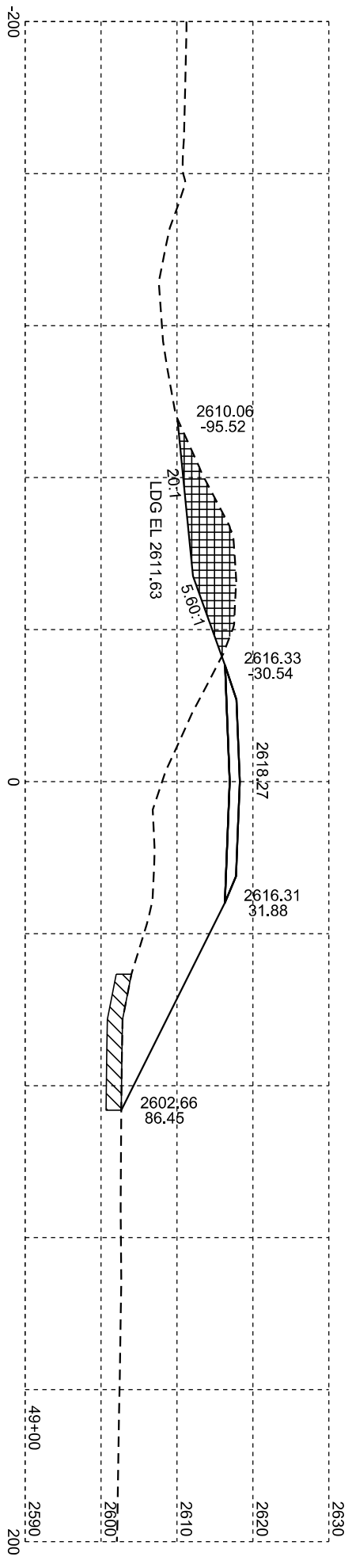
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X9	X19



Waste
 Unstable

Plotting Date: 08/15/2024

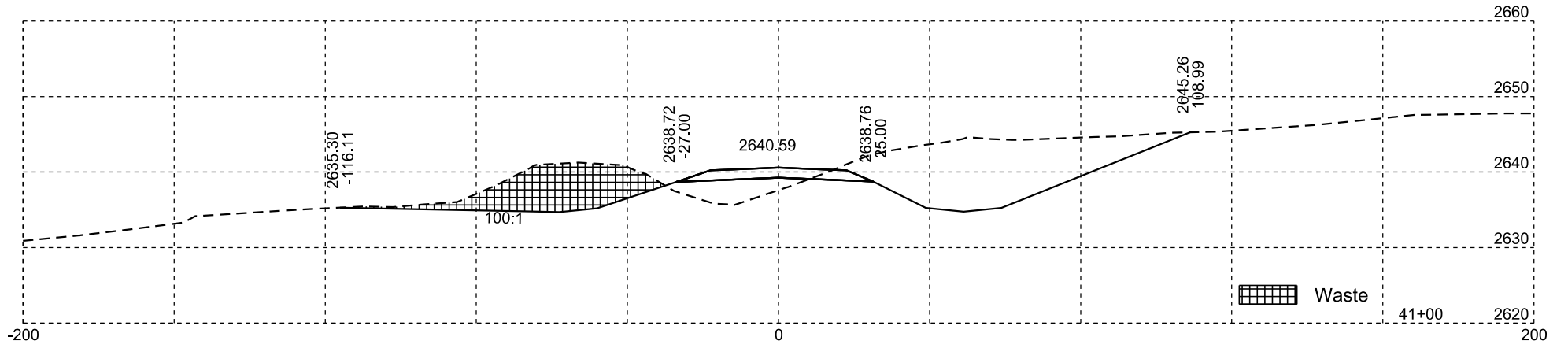
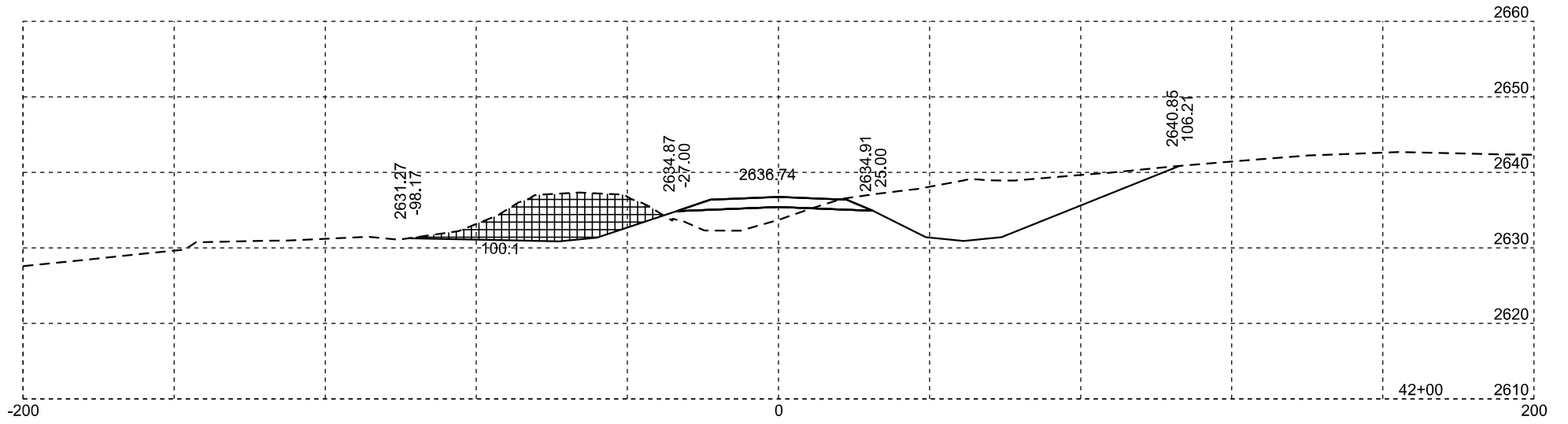
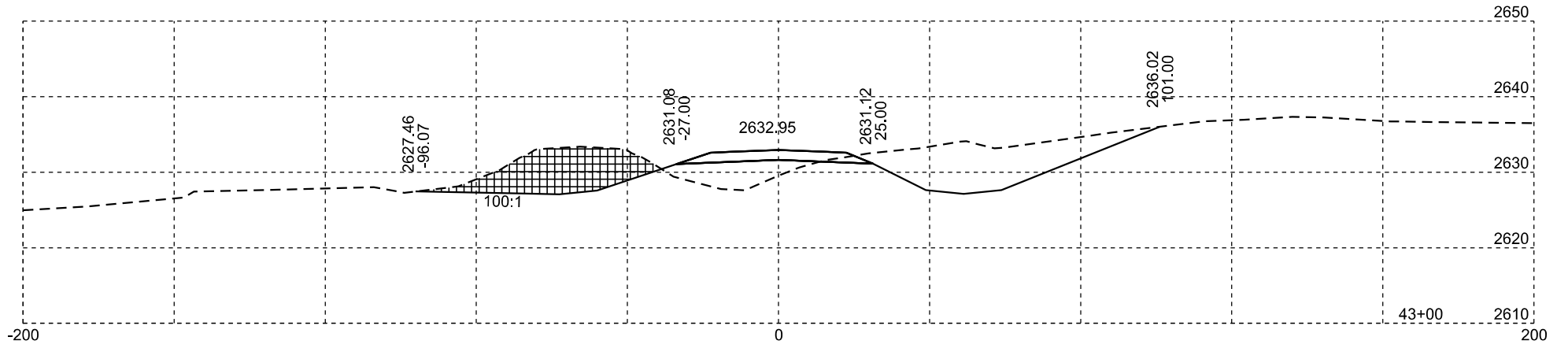
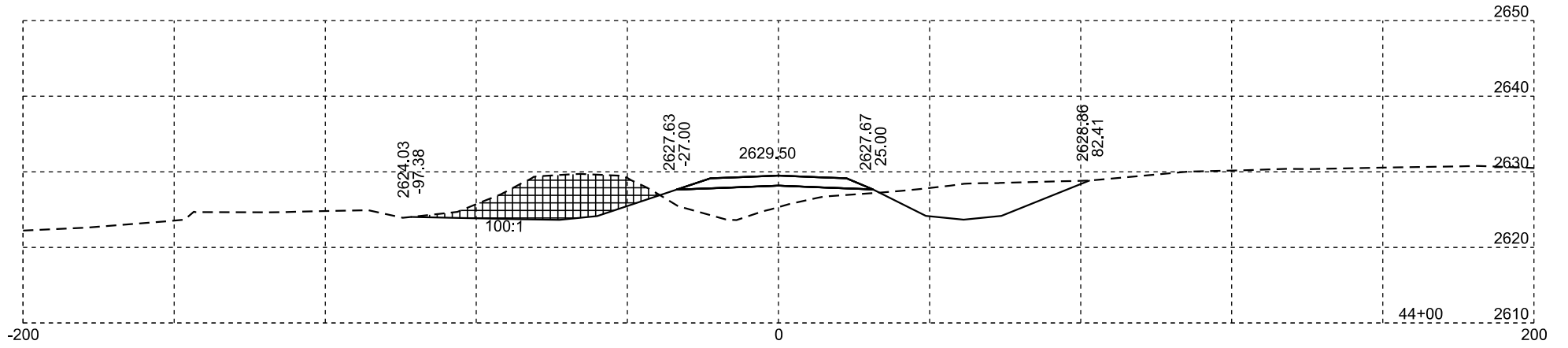
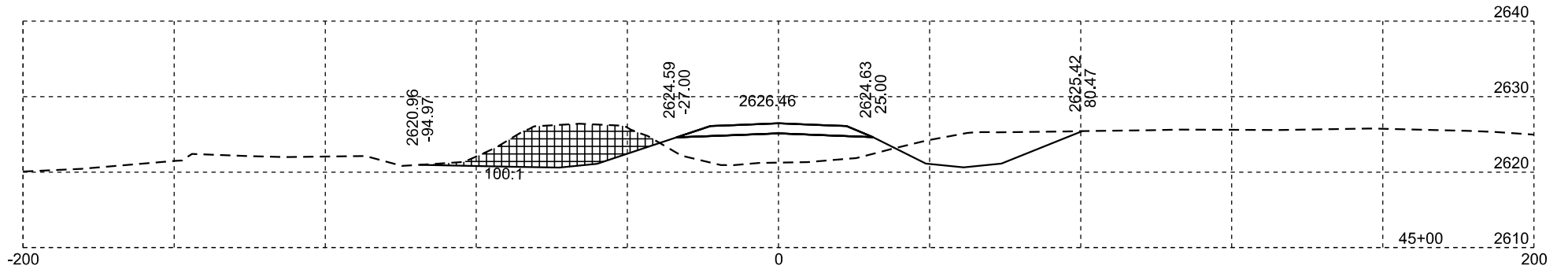
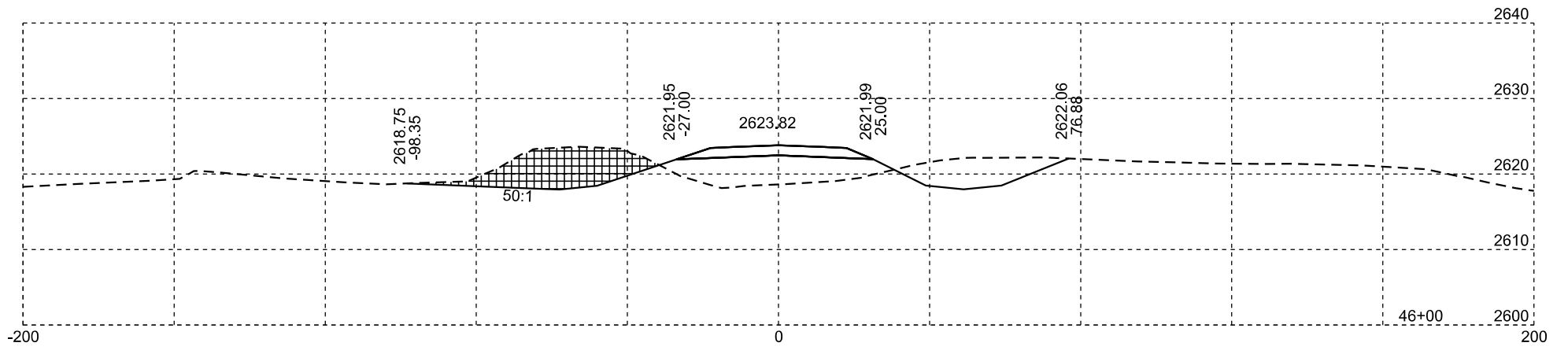
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X10	X19



Waste
 Unstable

Plotting Date: 08/15/2024

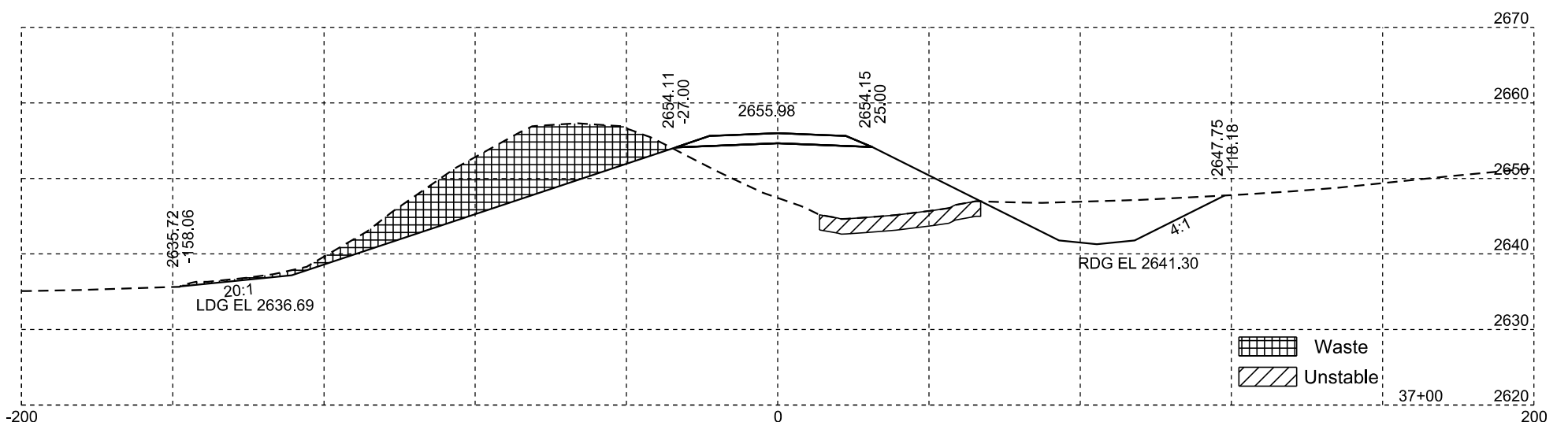
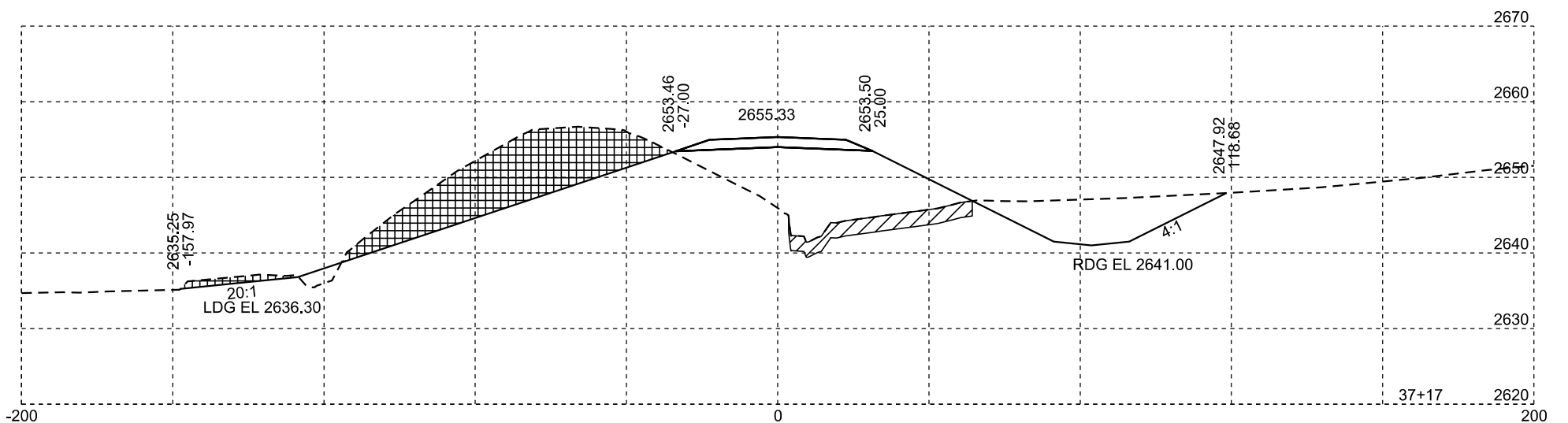
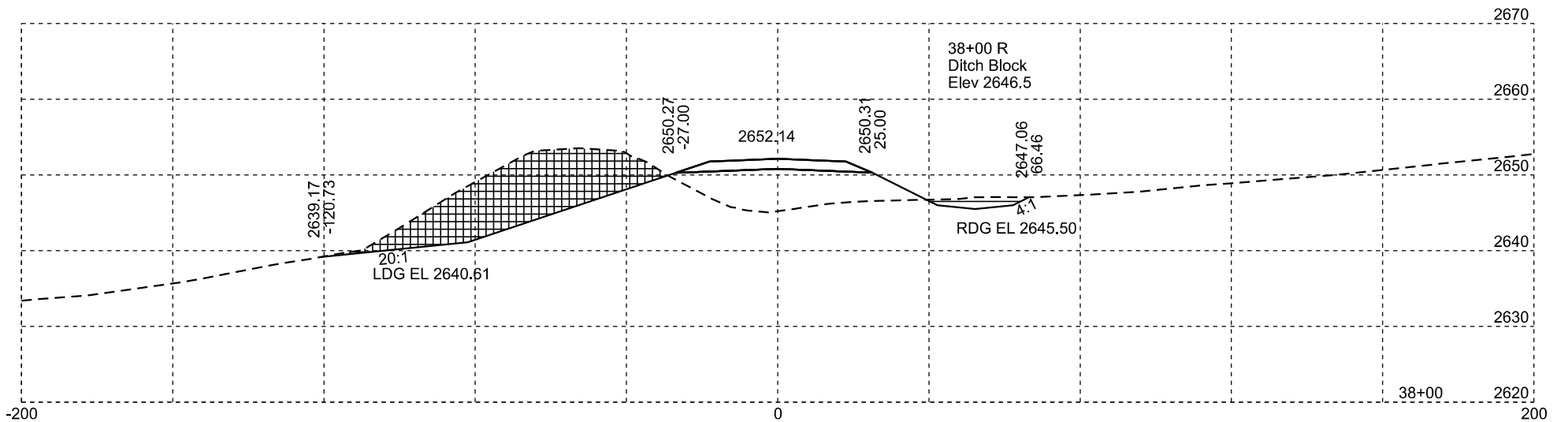
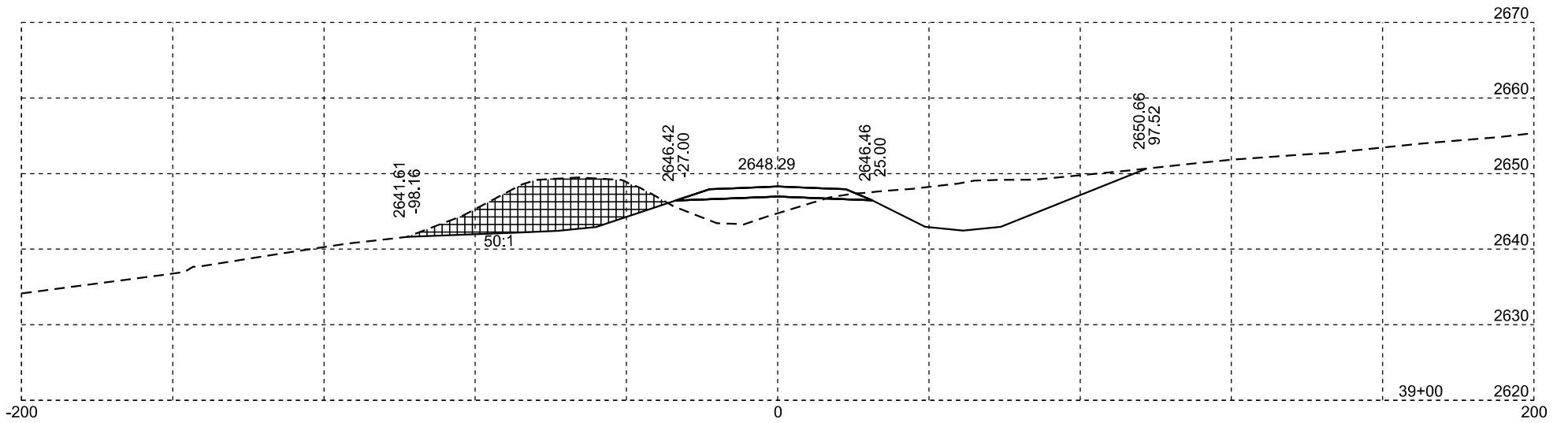
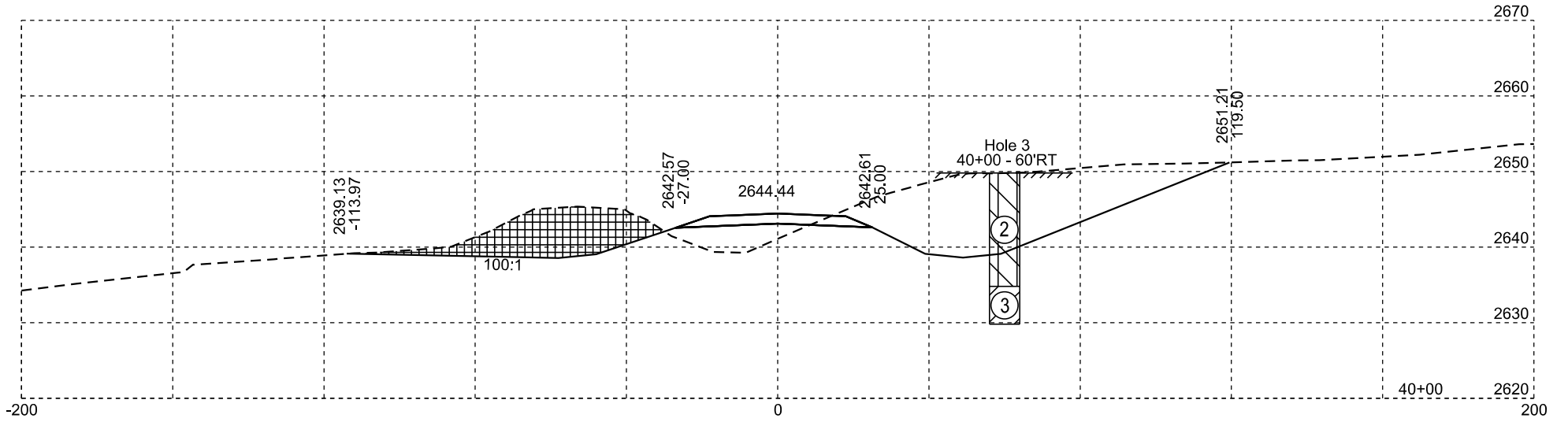
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X11	X19





Waste

Plotting Date: 08/15/2024

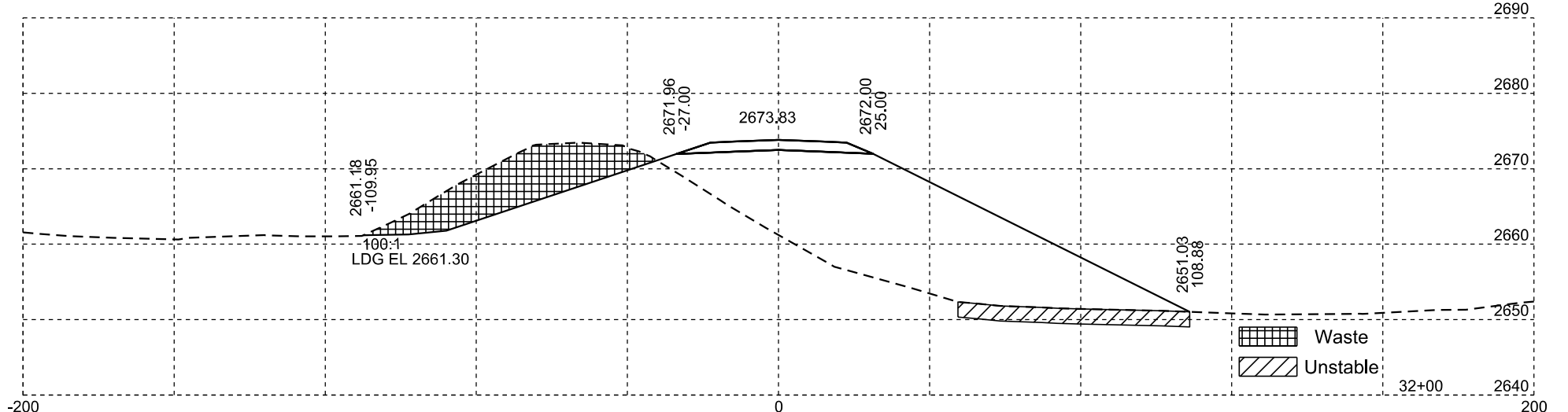
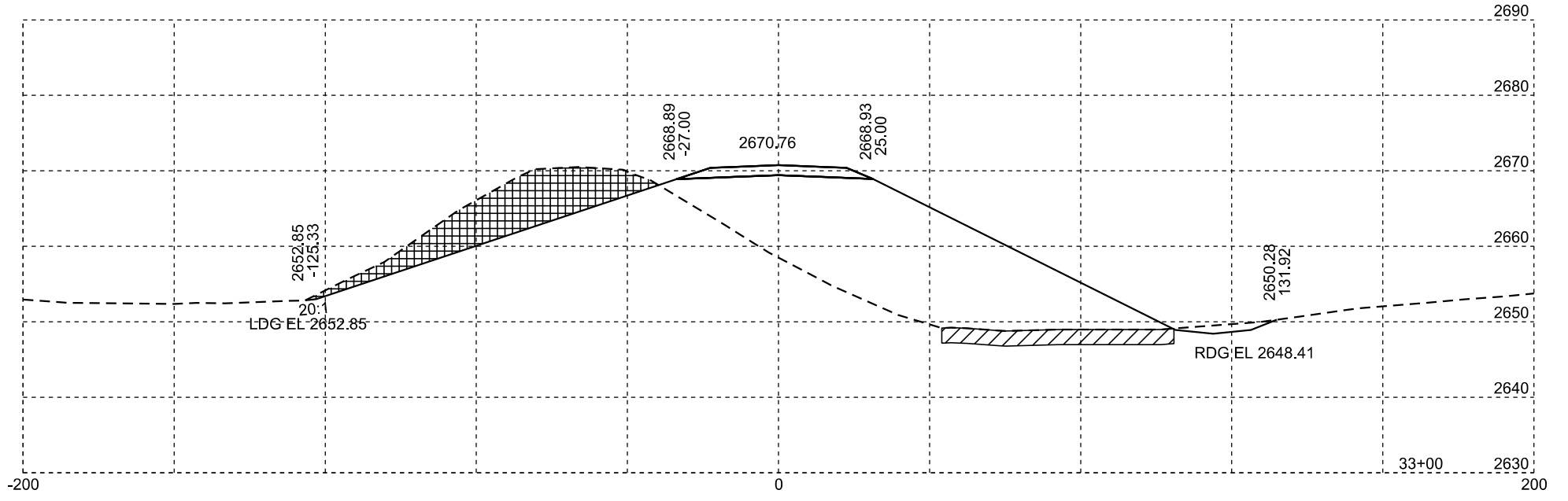
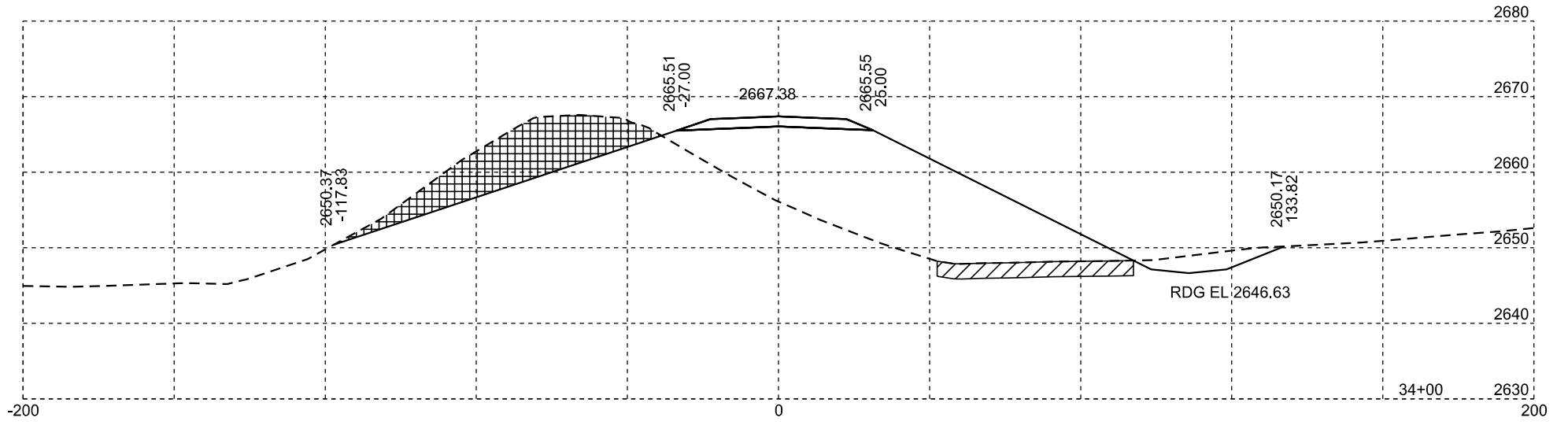
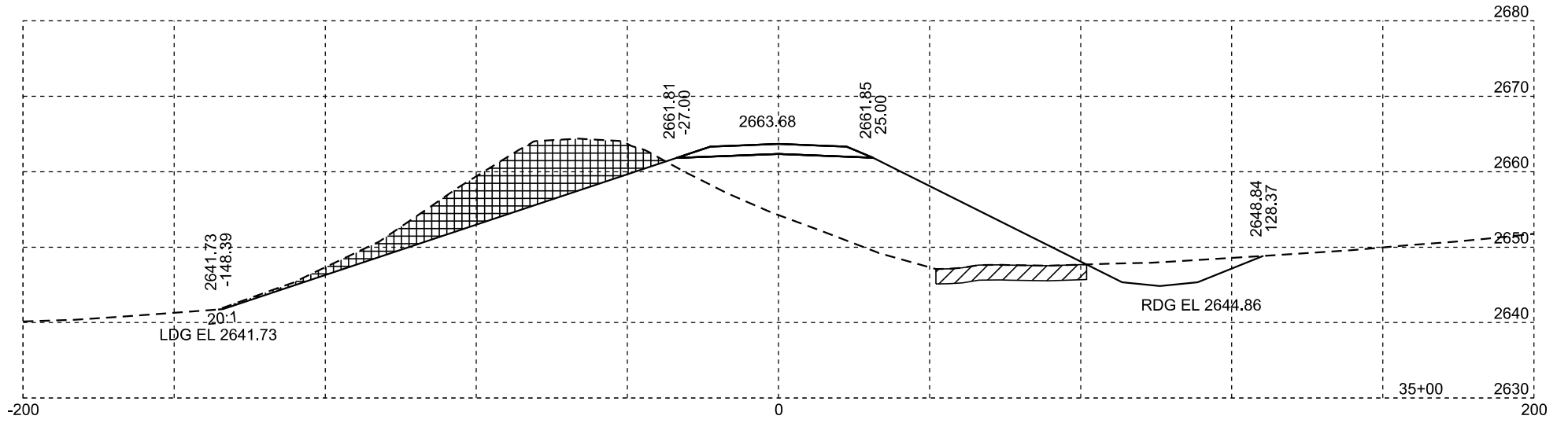
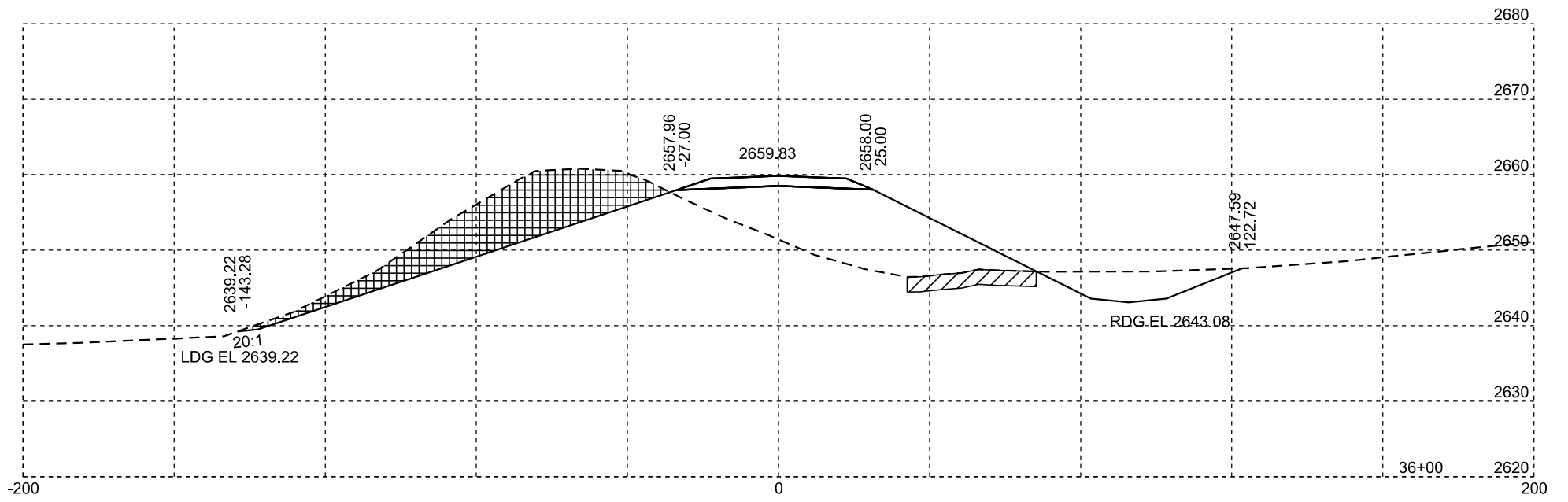
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X12	X19



 Waste
 Unstable

Plotting Date: 08/15/2024

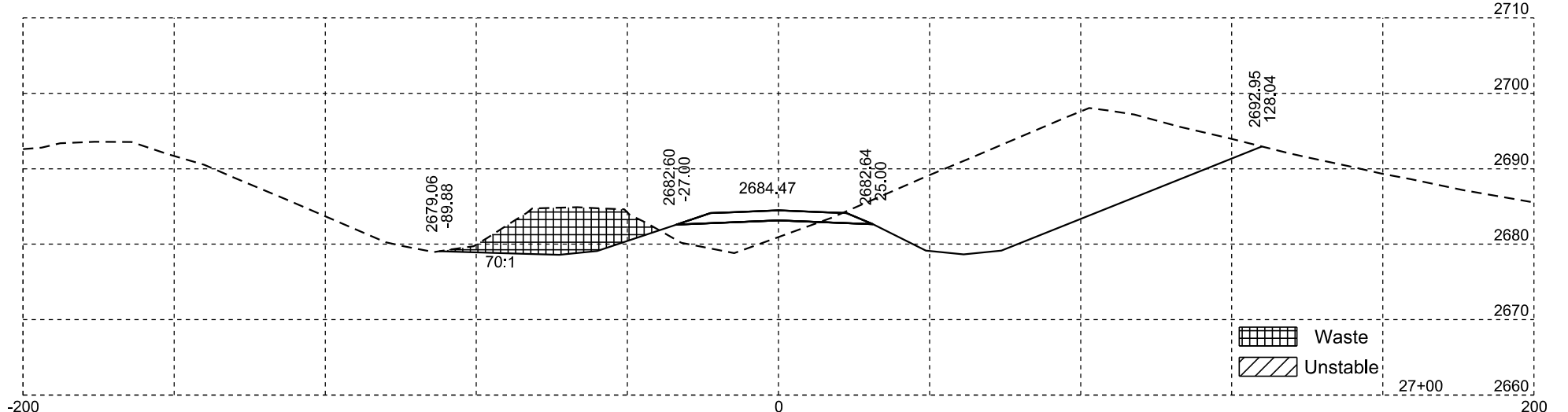
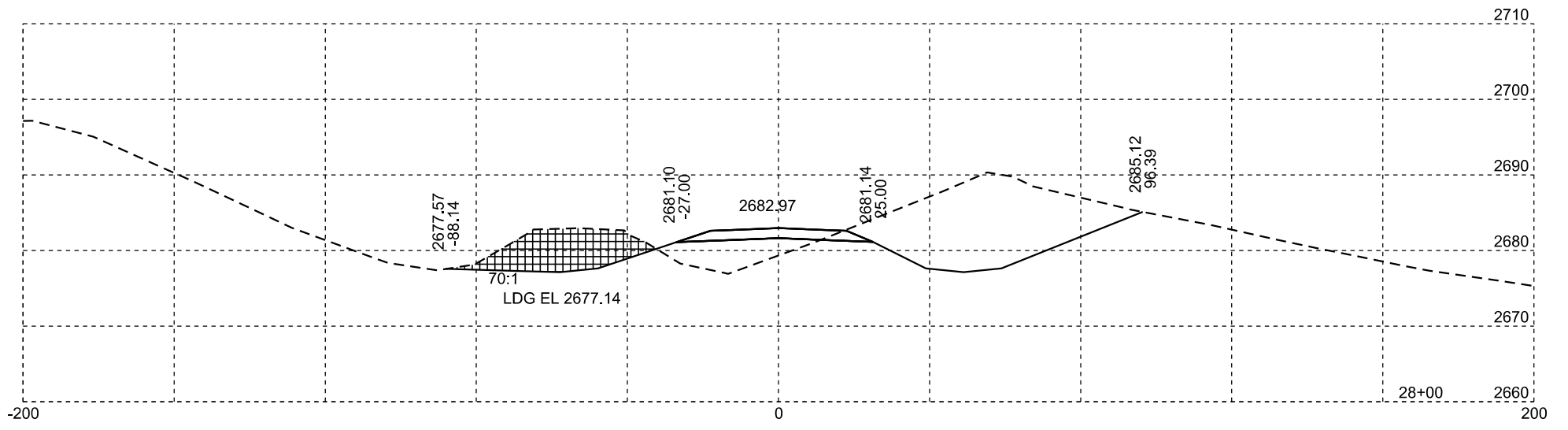
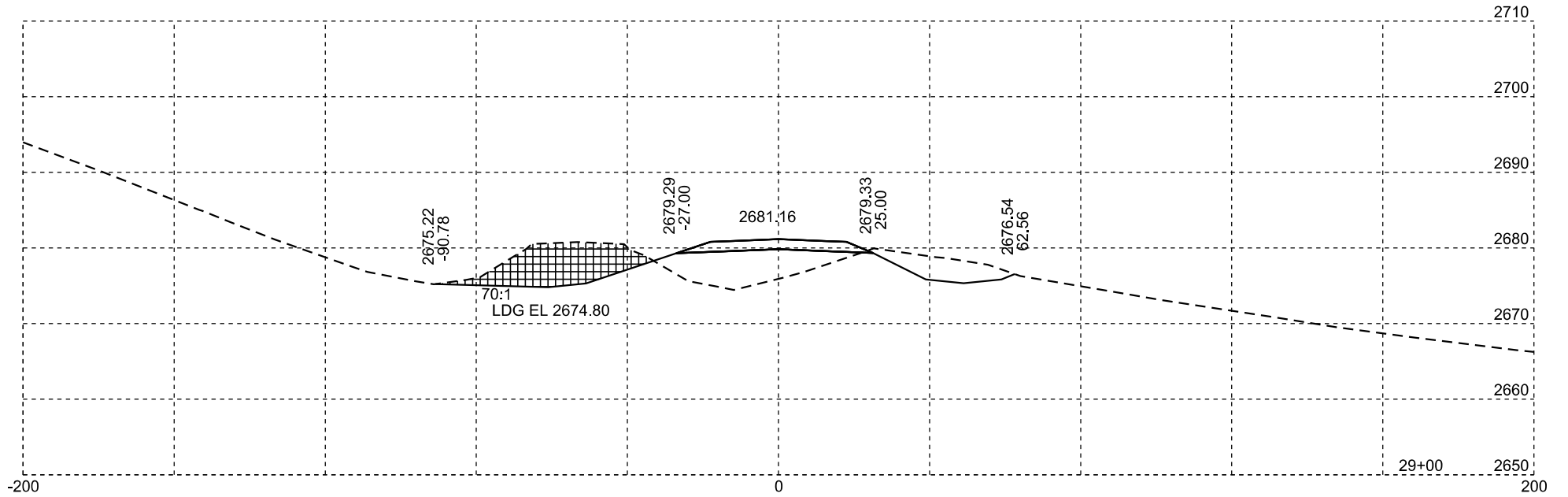
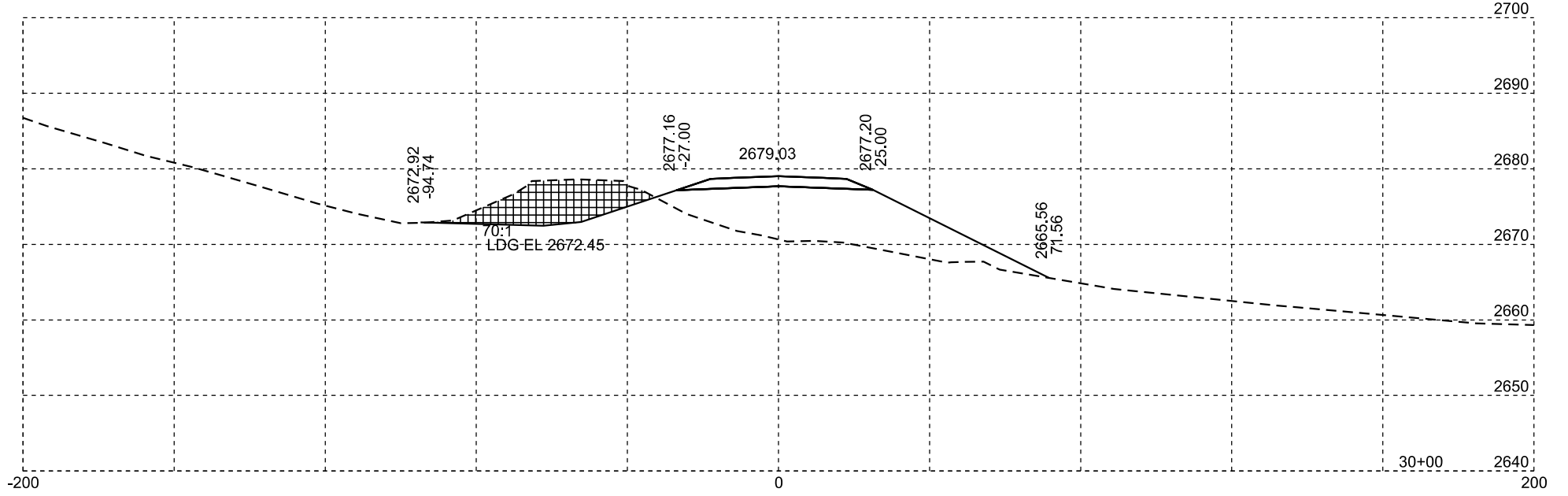
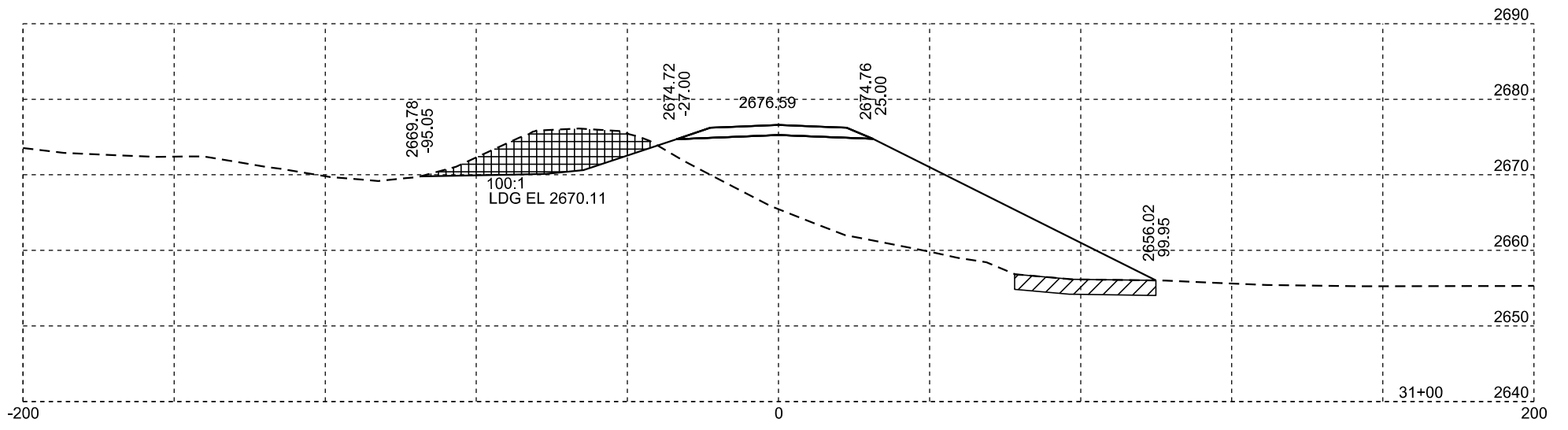
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X13	X19



Waste
 Unstable

Plotting Date: 08/15/2024

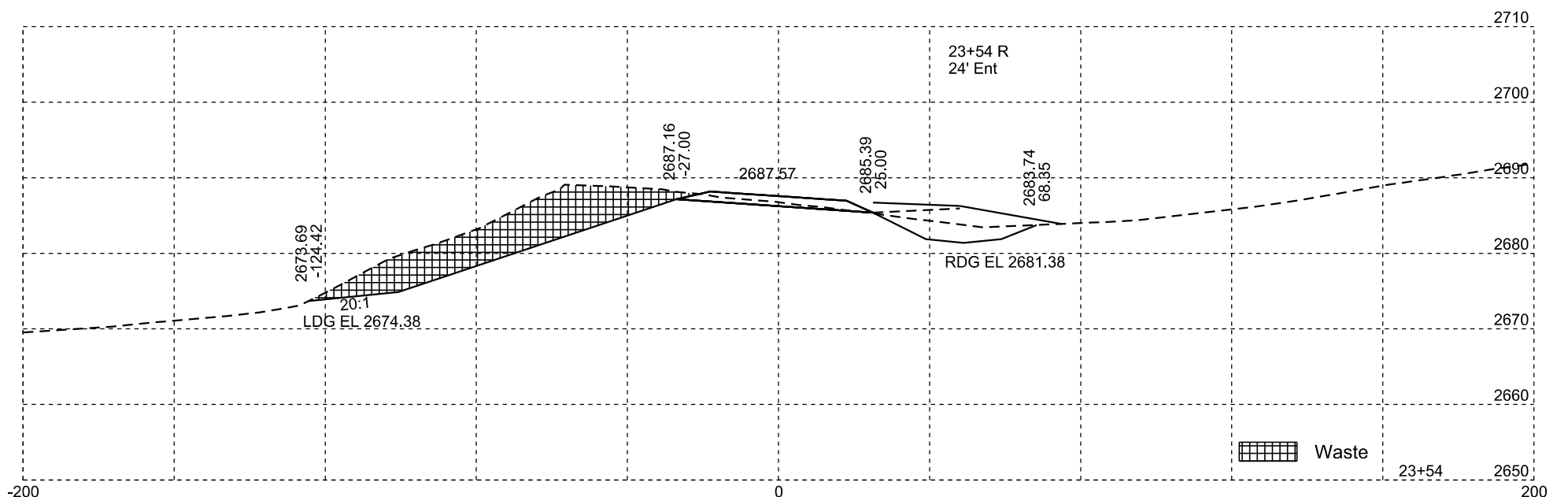
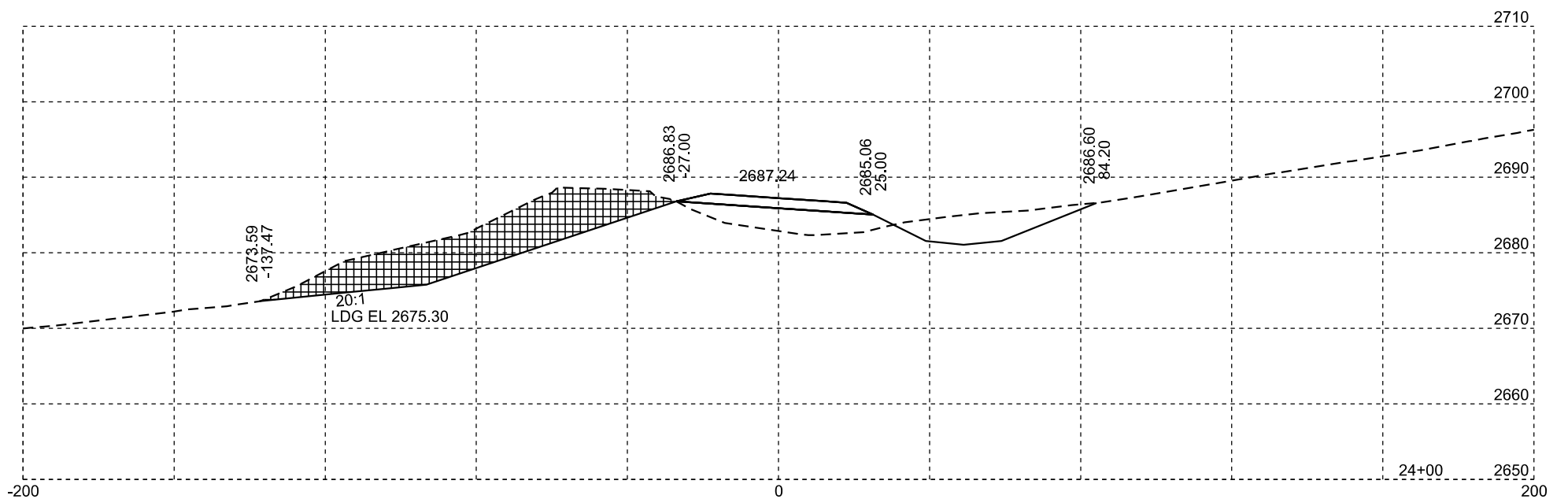
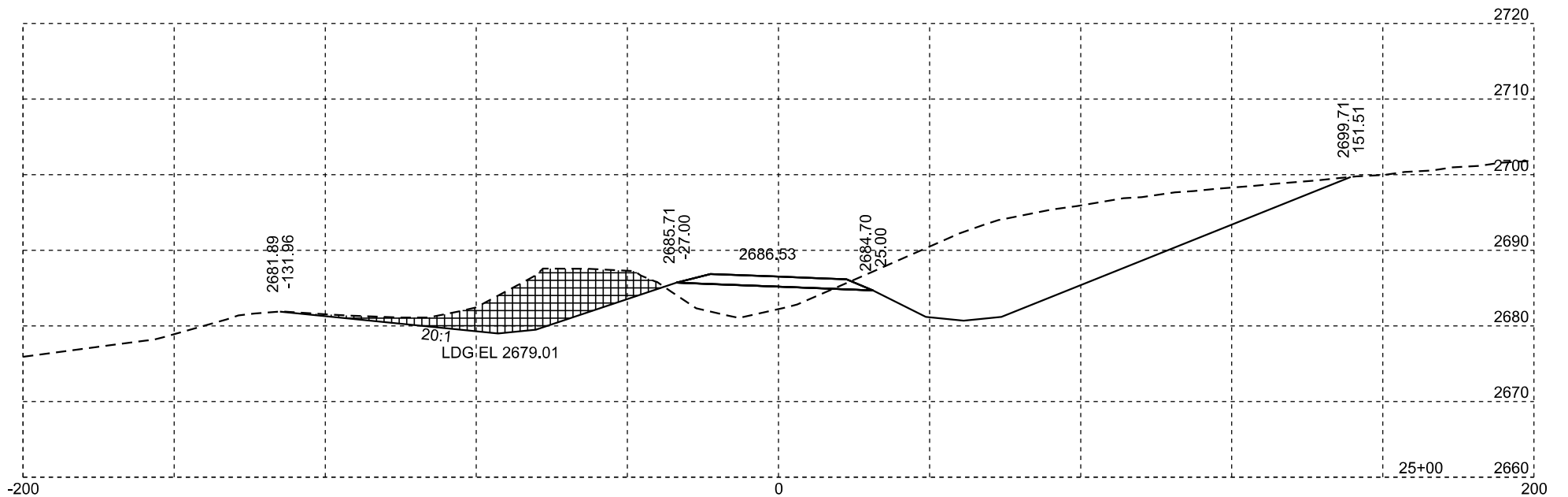
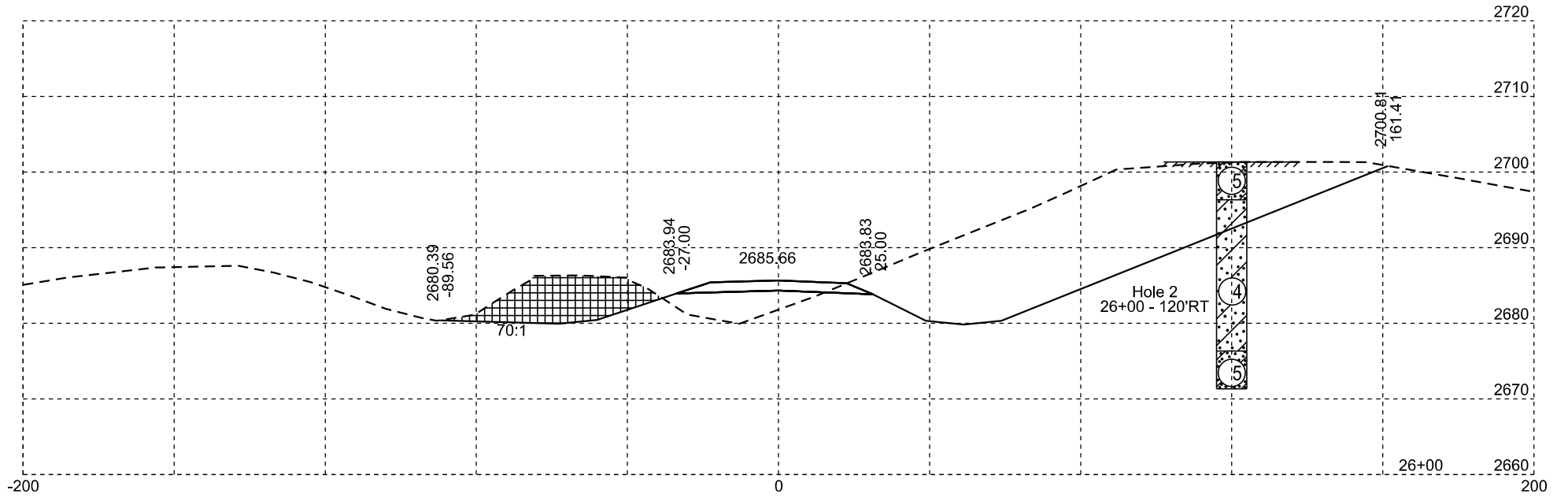
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X14	X19



Waste
 Unstable

Plotting Date: 08/15/2024

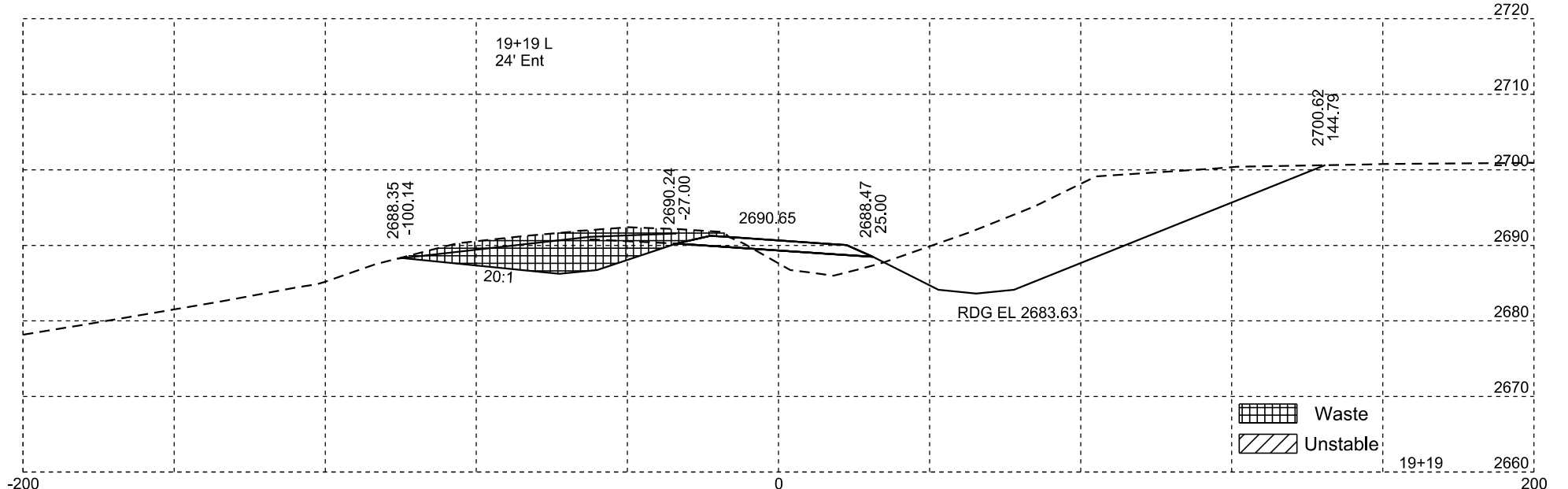
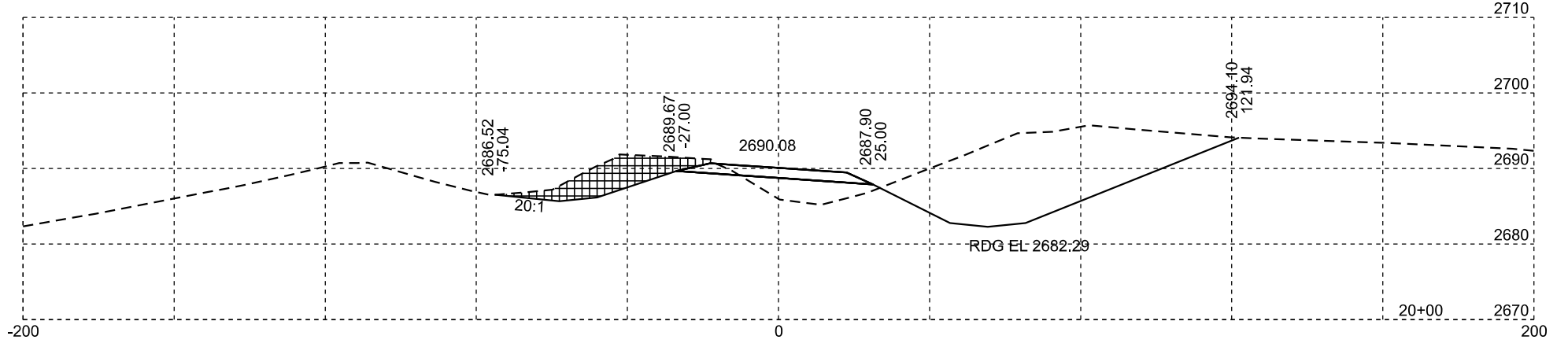
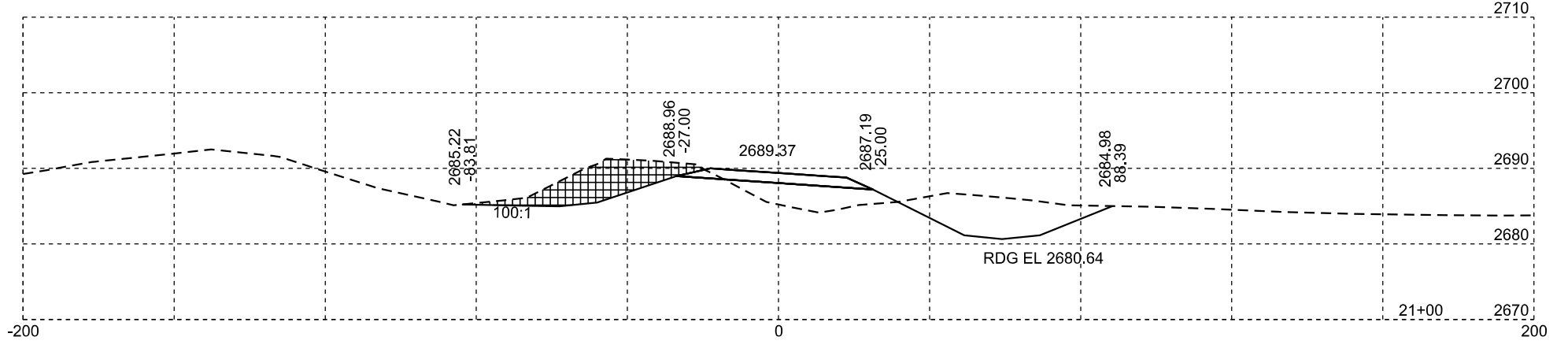
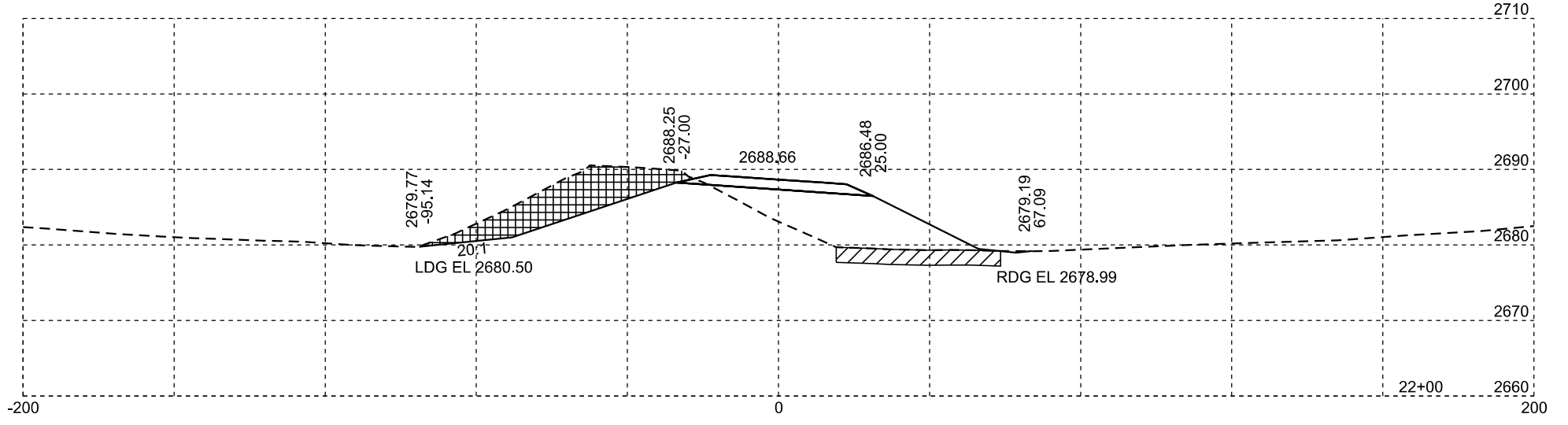
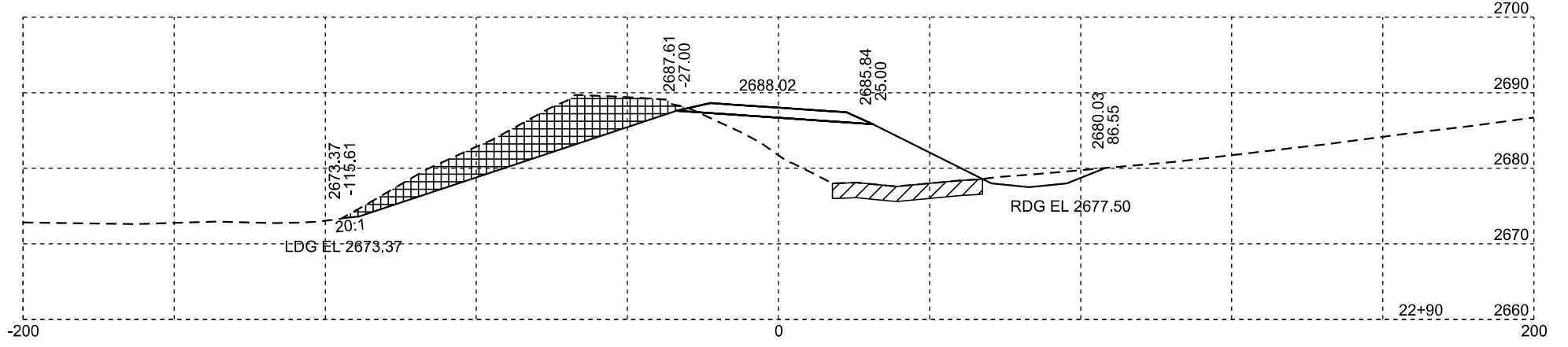
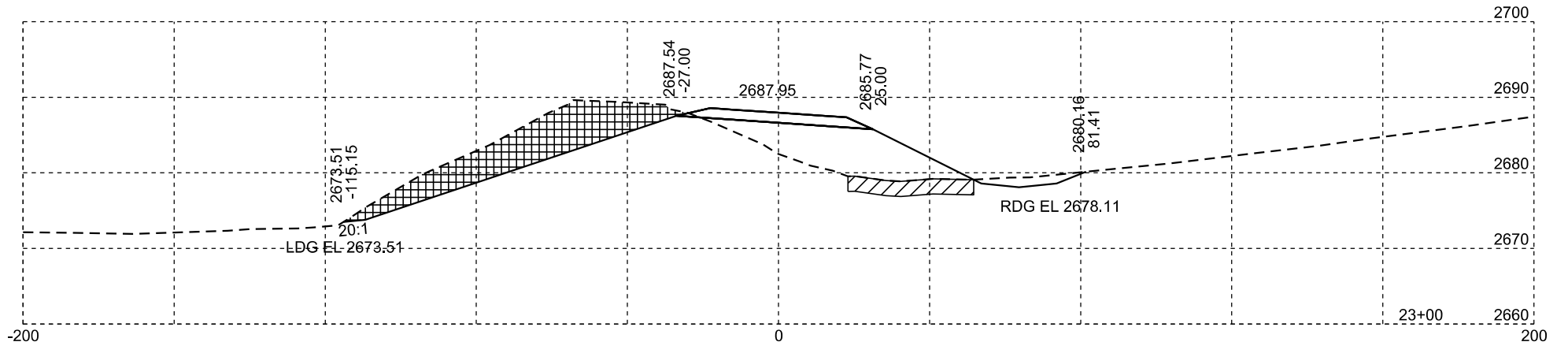
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X15	X19



Waste

Plotting Date: 08/15/2024

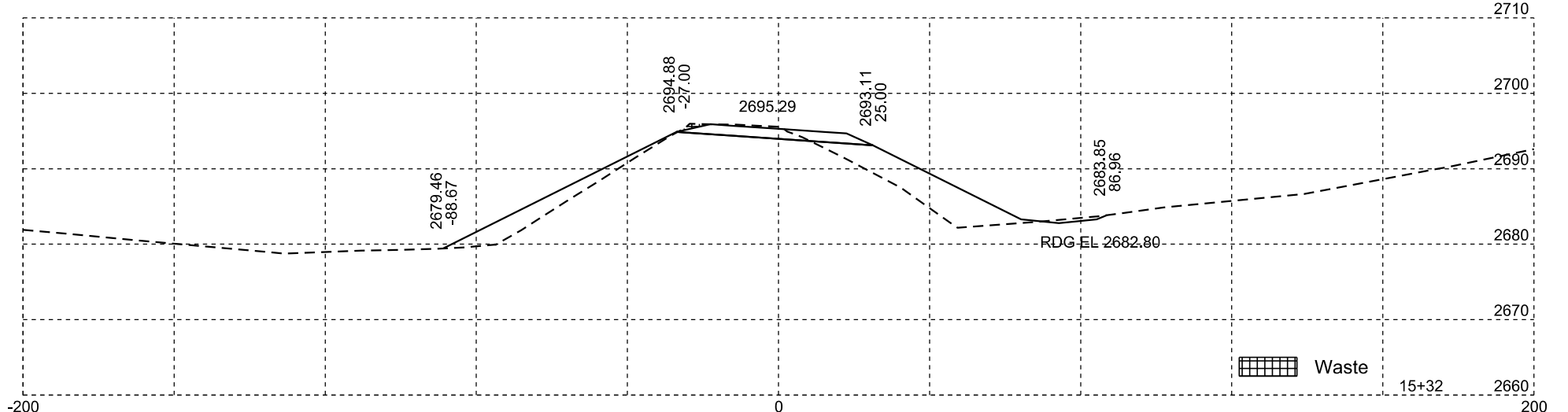
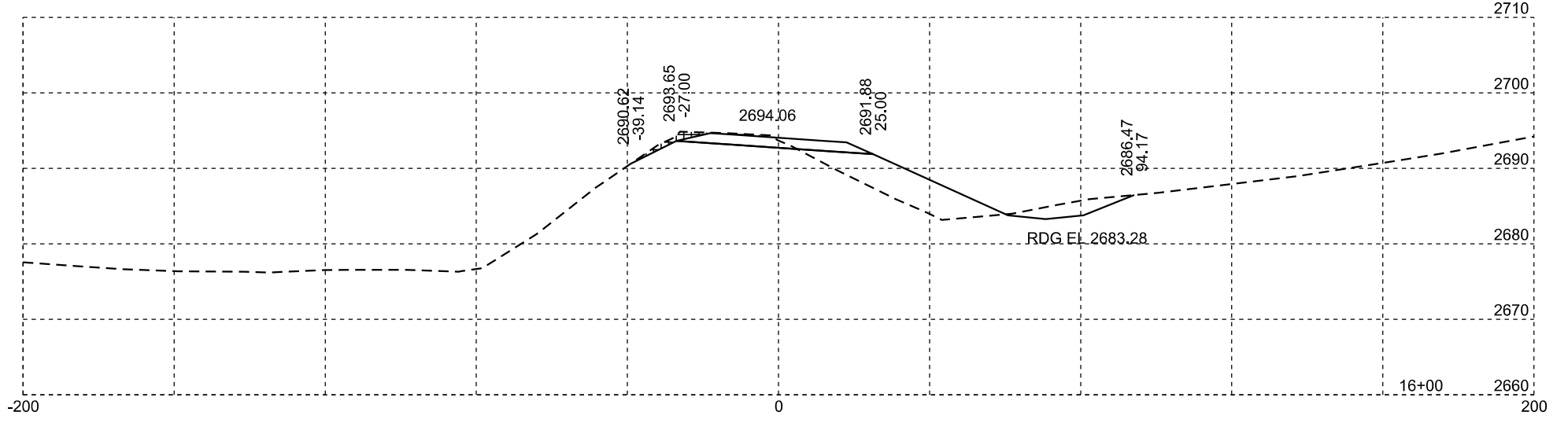
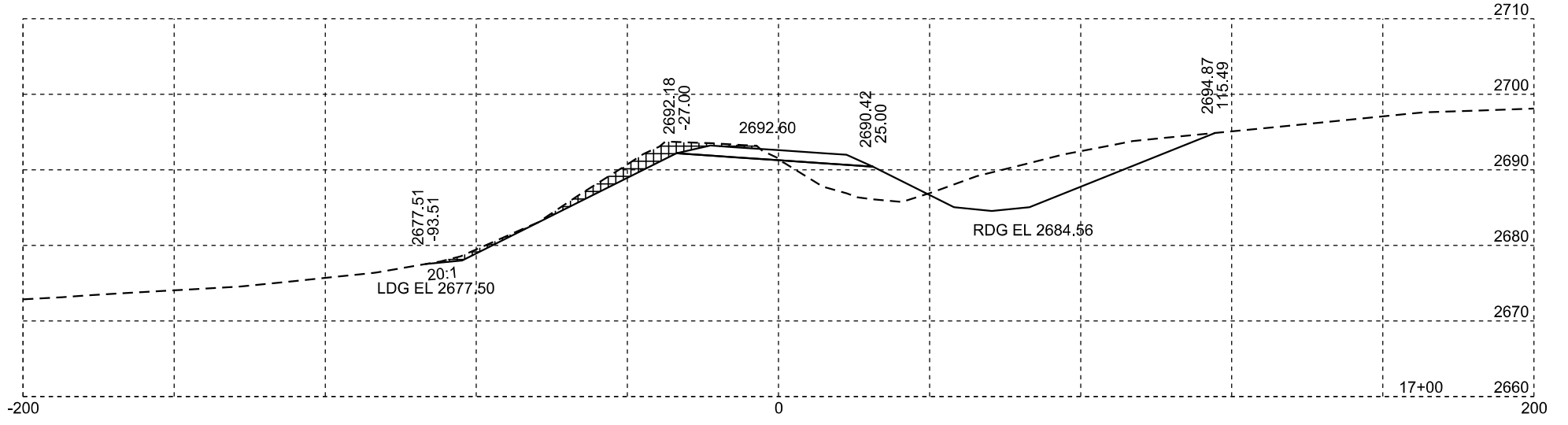
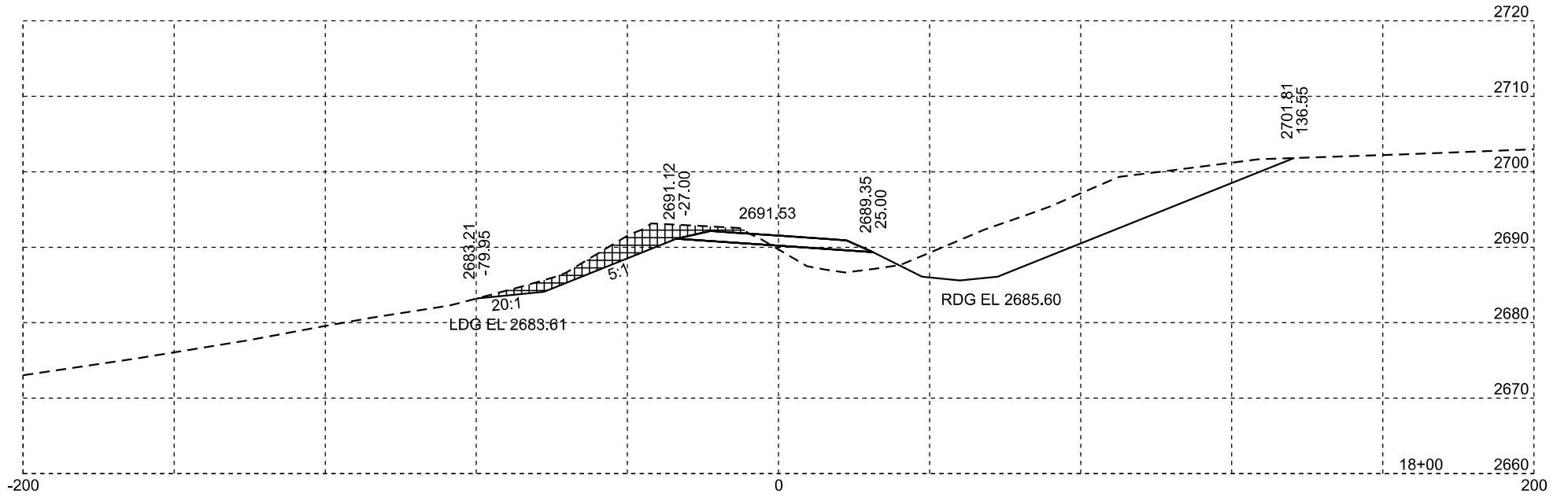
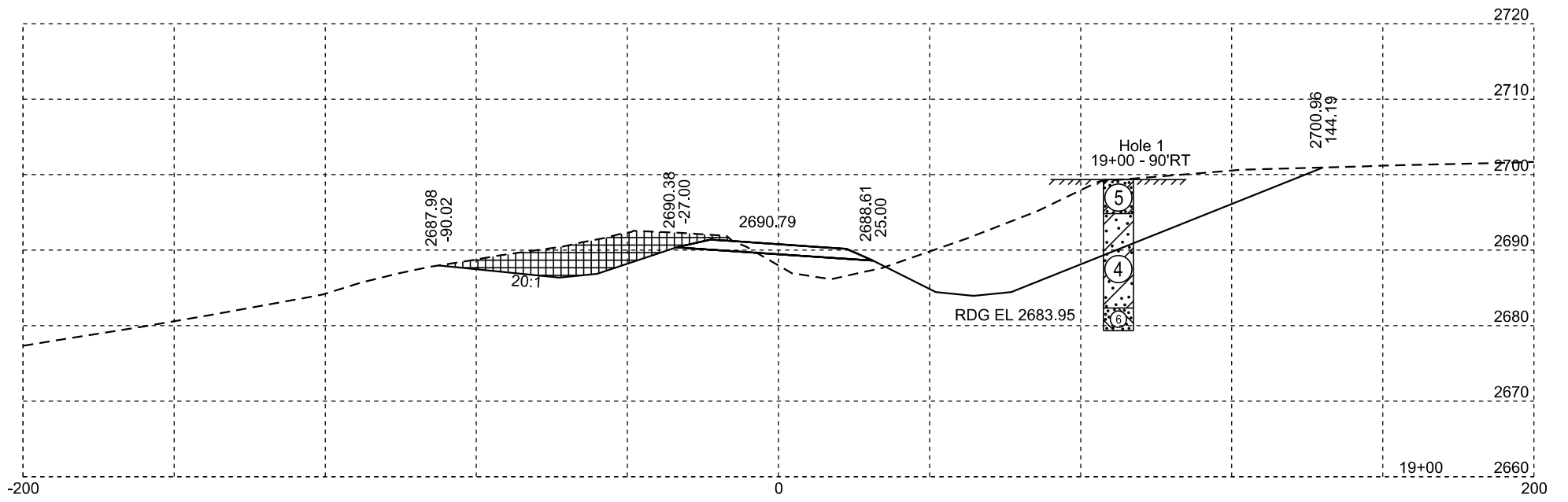
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X16	X19



Waste
 Unstable

Plotting Date: 08/15/2024

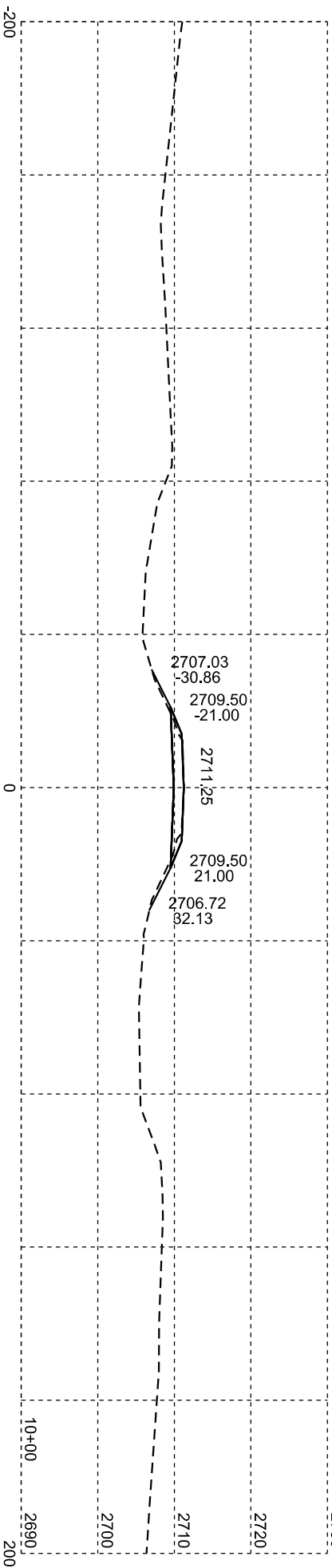
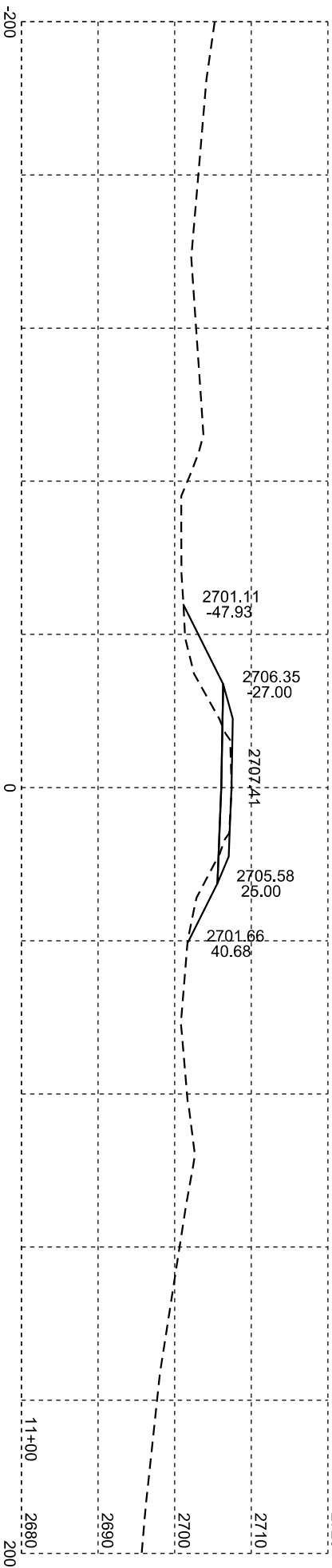
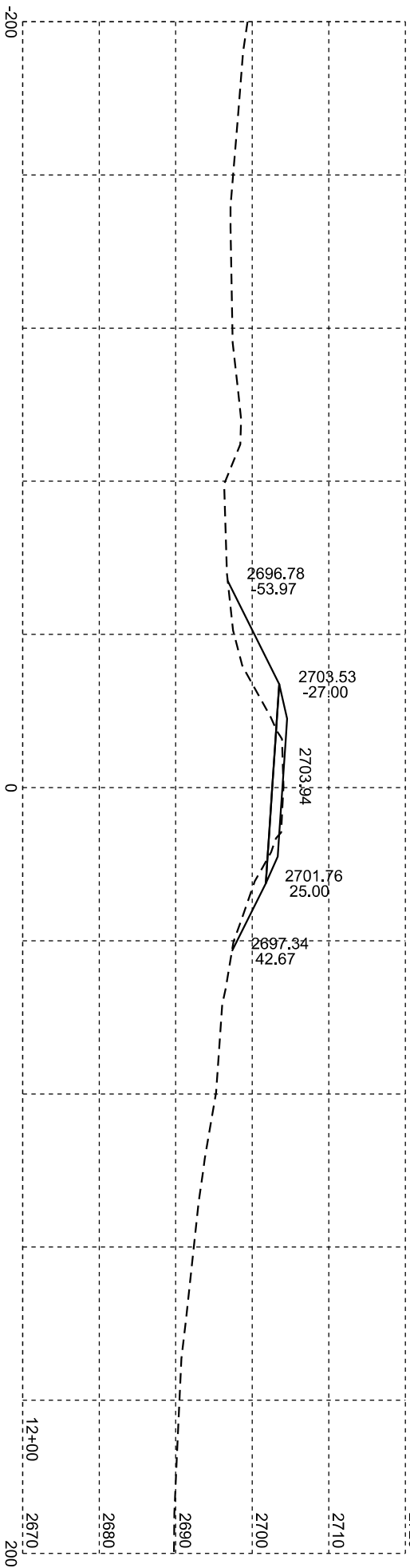
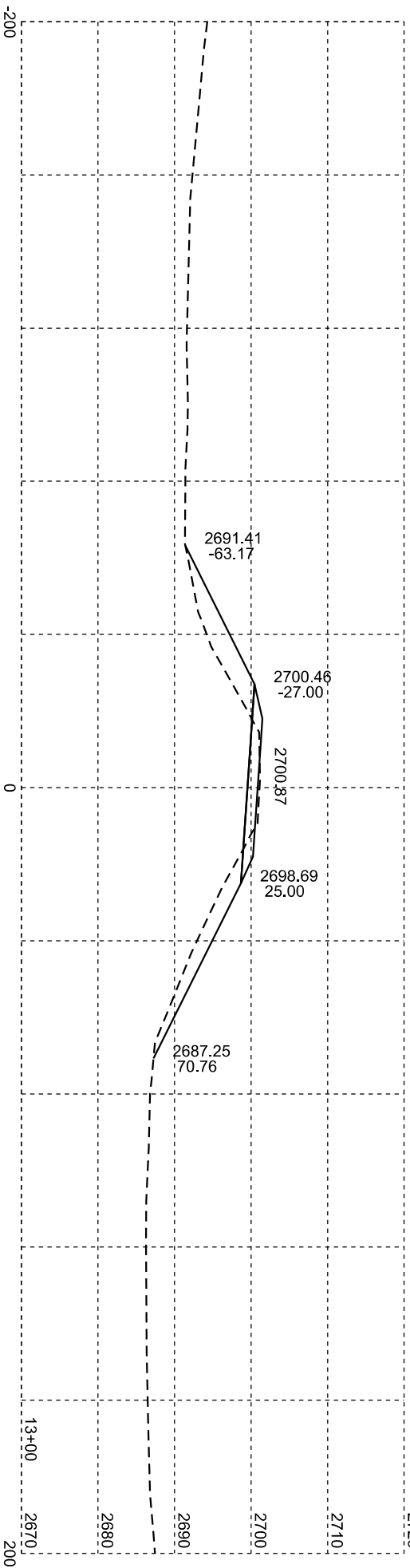
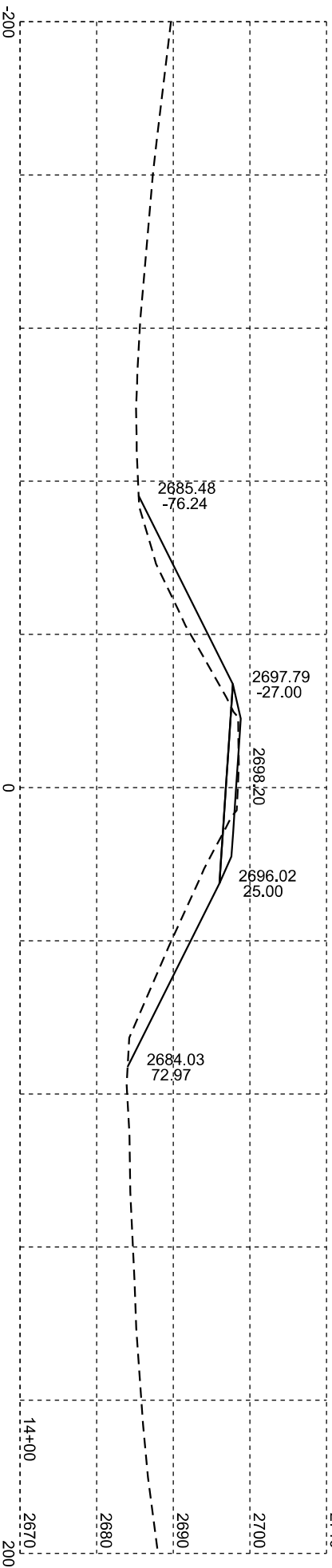
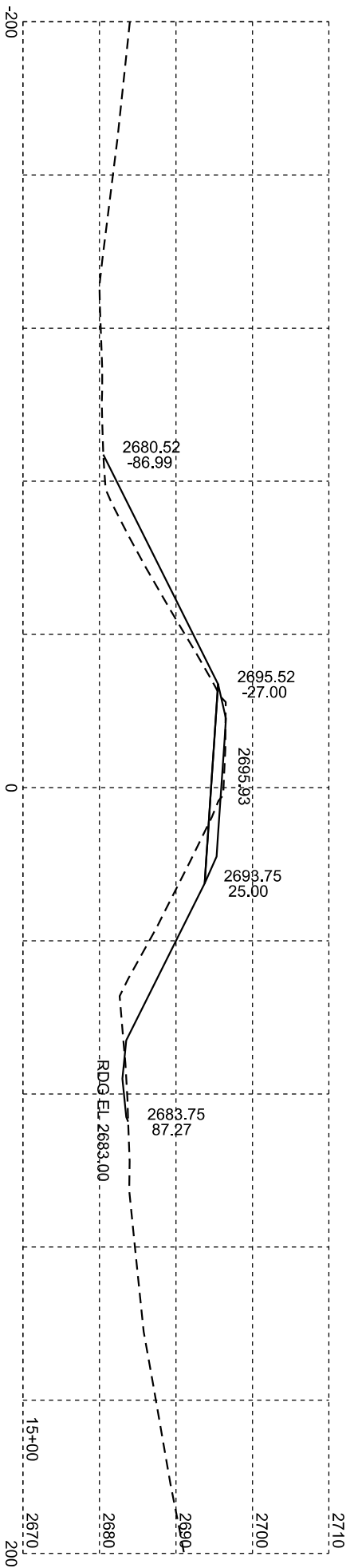
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X17	X19



Waste

Plotting Date: 08/15/2024

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X18	X19



Plotting Date: 08/15/2024

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0079(84)232	X19	X19