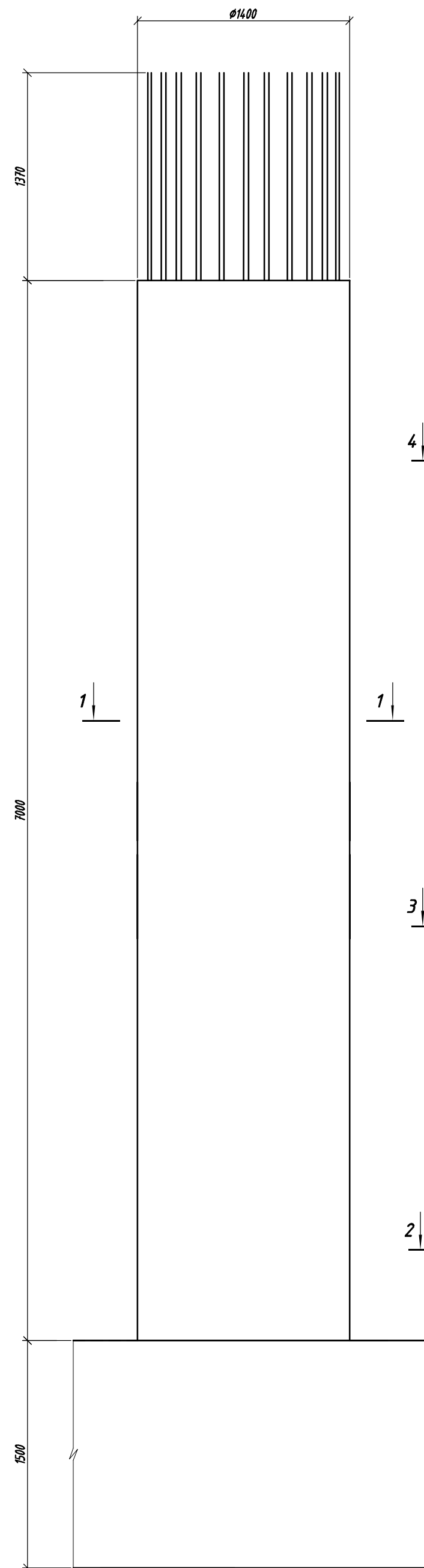
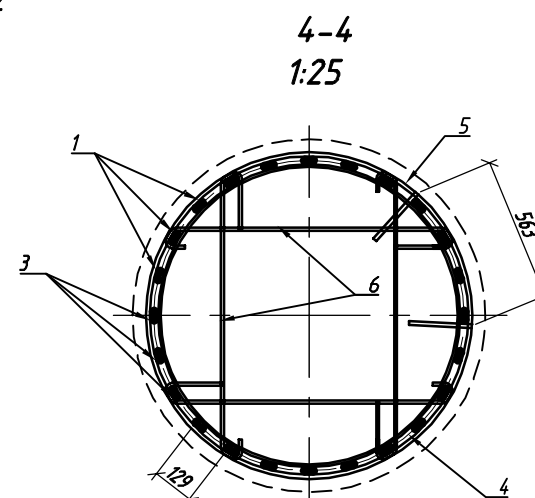
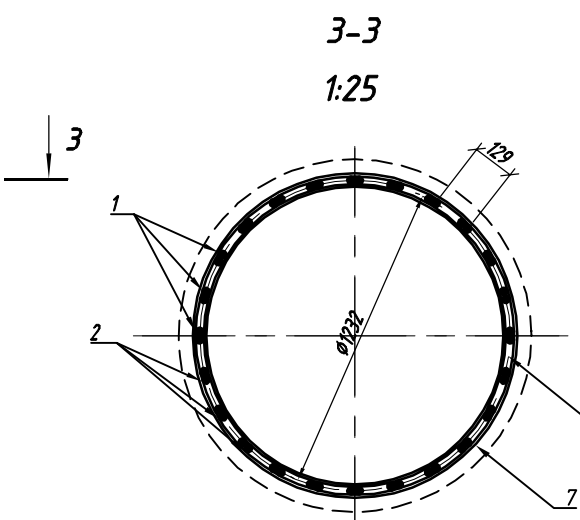
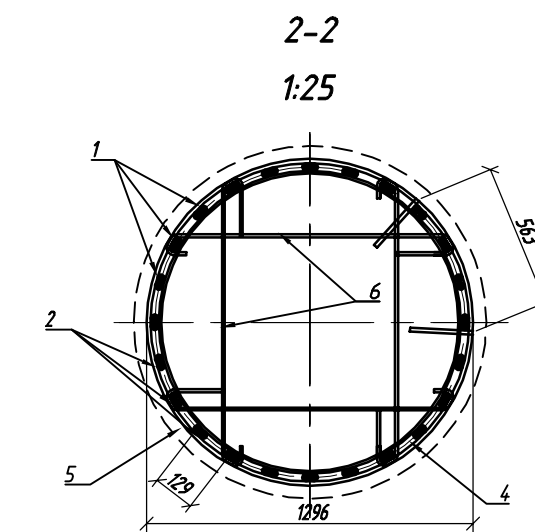
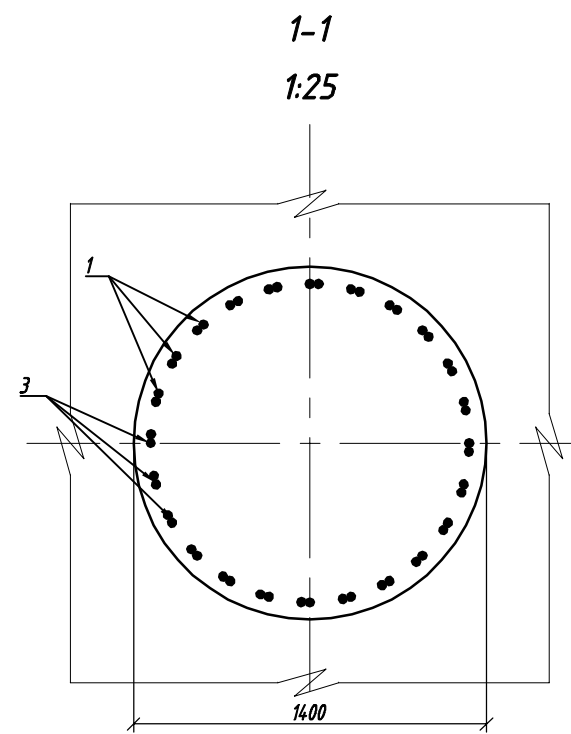
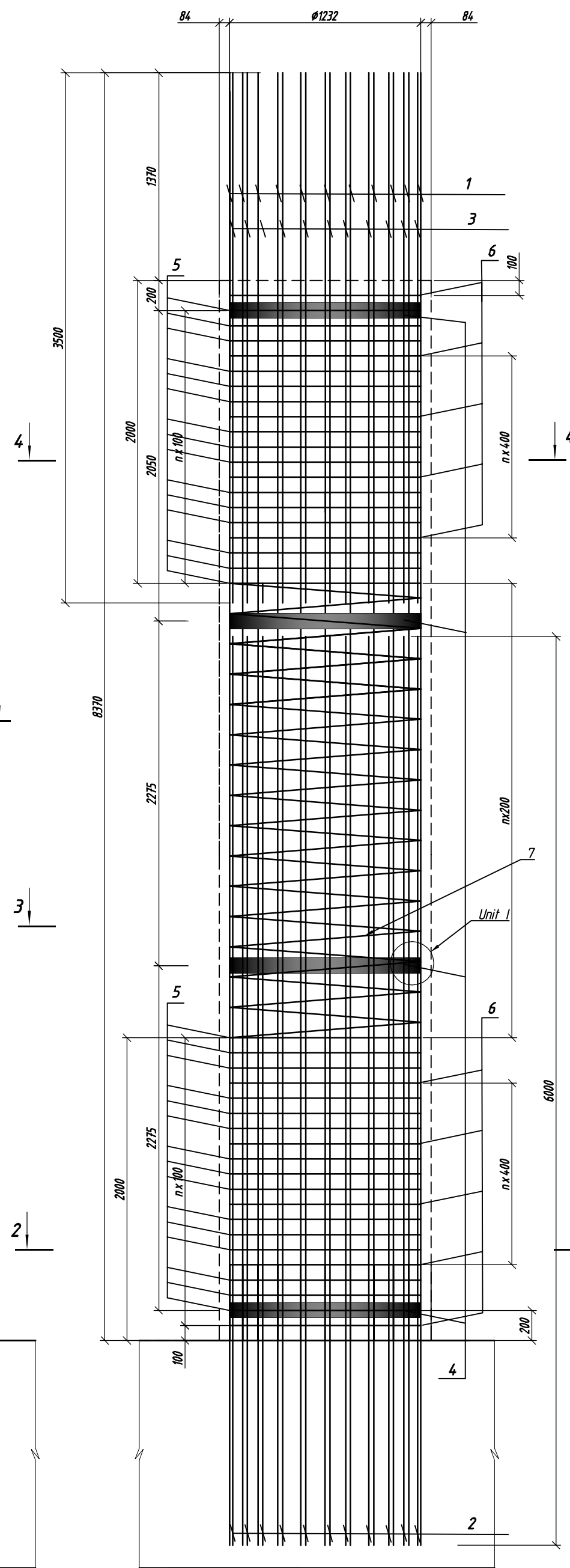




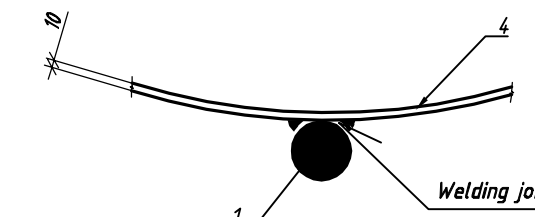
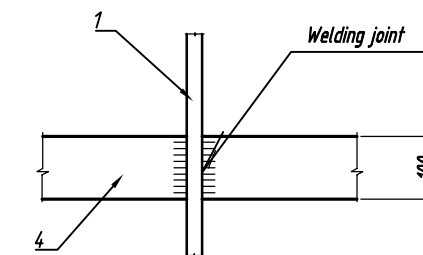
Falsework diagram
C-1
1:25



Reinforcement diagram
C-1
1:25



Unit 1
1:10



Register of steel consumption per element, kg

Mark of element	Reinforcement				Embedded items	Total
	BS 4449:2005 (B500B)				BS EN 10025-2:2004	
	φ12	φ20	φ16	φ32	-10 x 100	
C-1	93.20	207.36	356.40	2383.20	119.32	3159.50

Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
Prefabricated units				
1	φ32 B500B BS 4449:2005, L=9720	24	61.40	1473.60
2	φ32 B500B BS 4449:2005, L=6000	24	37.90	909.60
3	φ20 B500B BS 4449:2005, L=3500	24	8.64	207.36
4	- 10x100x3800 BS EN10025-2:2004	4	29.83	119.32
5	φ16 B500B BS 4449:2005, L=5645	40	8.91	356.40
6	φ12 B500B BS 4449:2005, L=1500	30	1.33	39.90
7	φ12 B500B BS 4449:2005, L=60000	1	53.30	53.30
Other materials				
8	Concrete C25/30, XC-2, XD-3, XF-1, S4, D22	10,80	m ³	

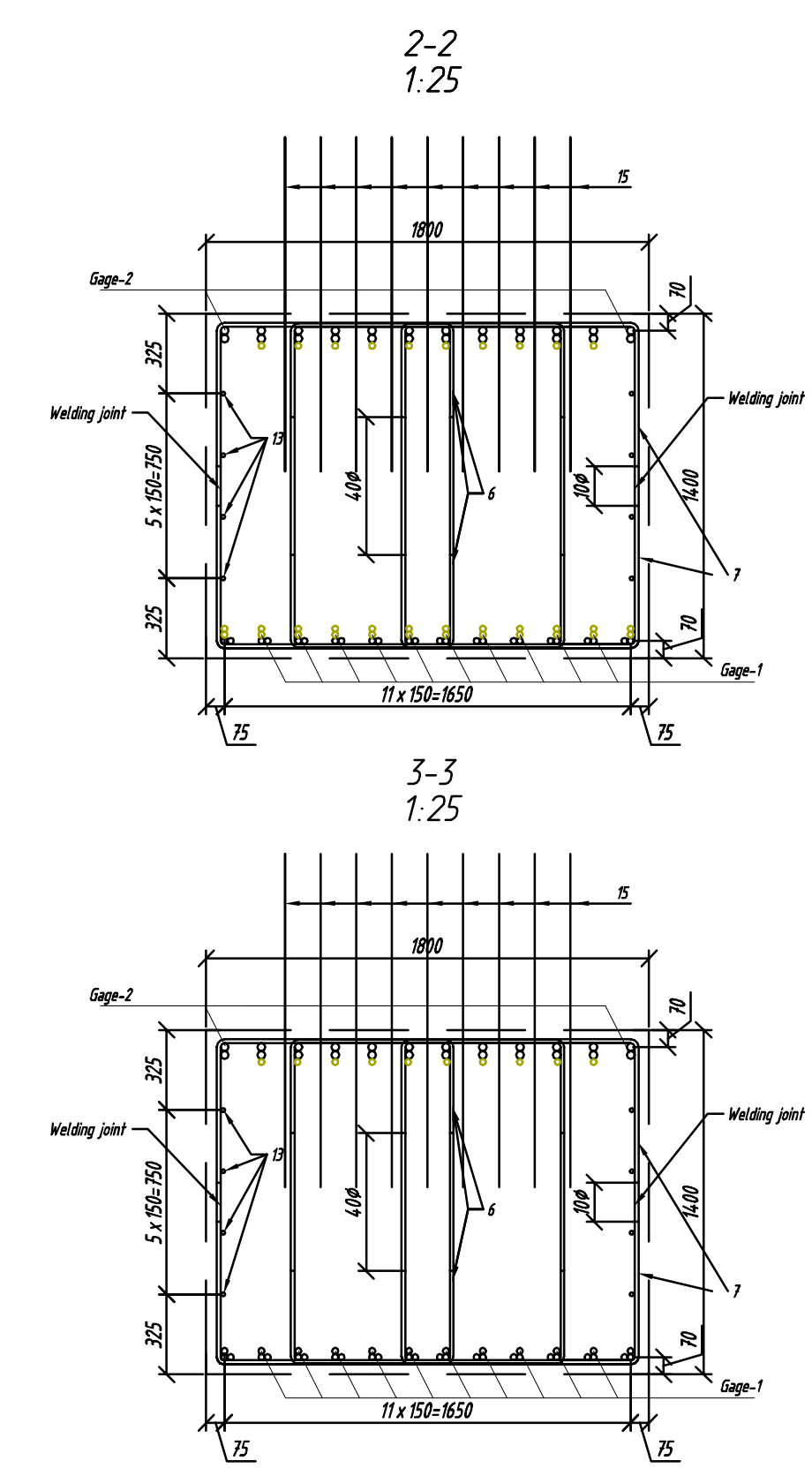
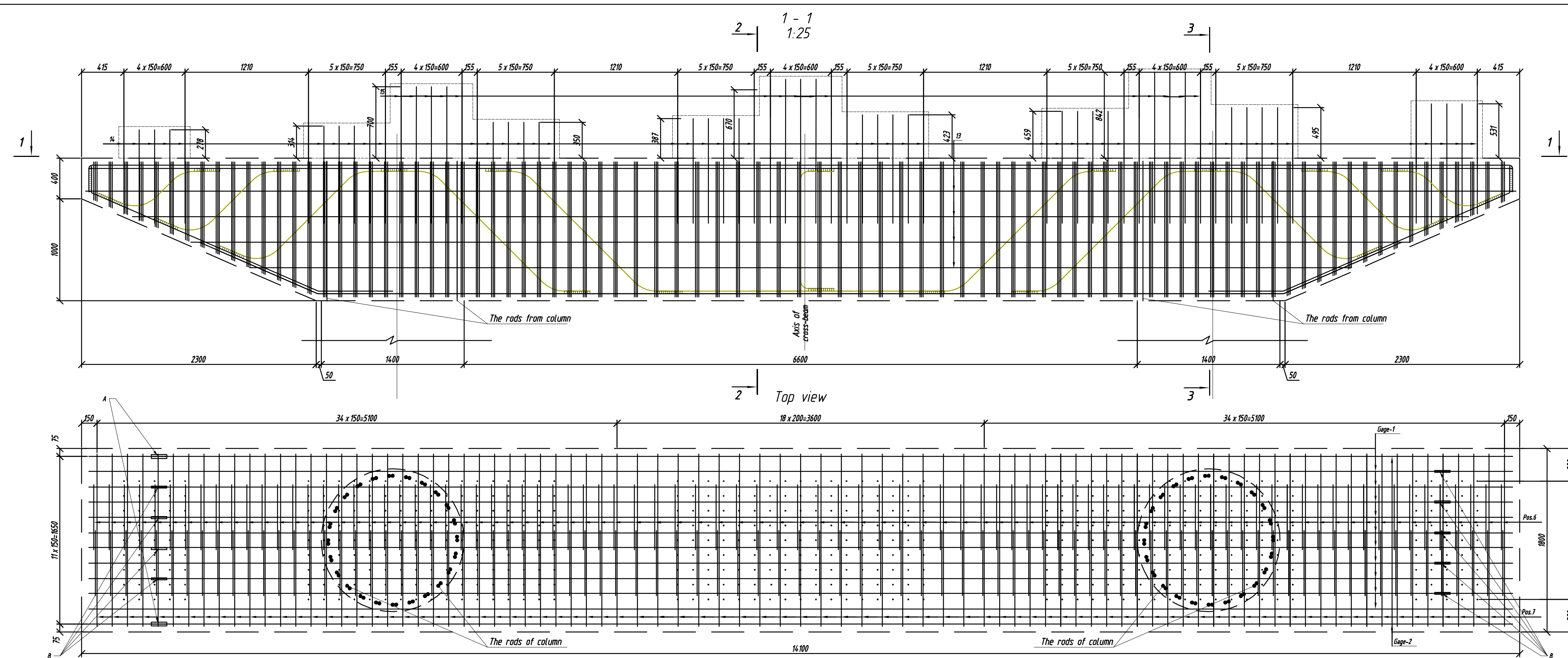
Register of items

Pos.	Sketch	Pos.	Sketch
7		5	
4		6	

- The rods pos.1 welded to the rings (pos.4) using one offset from ring to ring.
- In places of slinging all rods (pos.1) must be welded to the rings (pos.4).
- The quantity of columns on the pier two units.
- Reinforcement must be corresponds to BS 4449 u BS 4483 (in accordance with technical specification).
- Concrete must be corresponds to BS 8500-1 u BS 8500-2 (in accordance with technical specification).
- Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

ALT-PK 54+08-125-13				Construction of Samredia - Grigolefi road section of E-60 km 0 +000 - km 11 +500			
		R. Harlander		Overpass PK 54+08	Stage	Sheet	Sheets
					WD	1	2
					Structure of column of intermediate piers C-1		
					"Road Building" Altcom LLC		



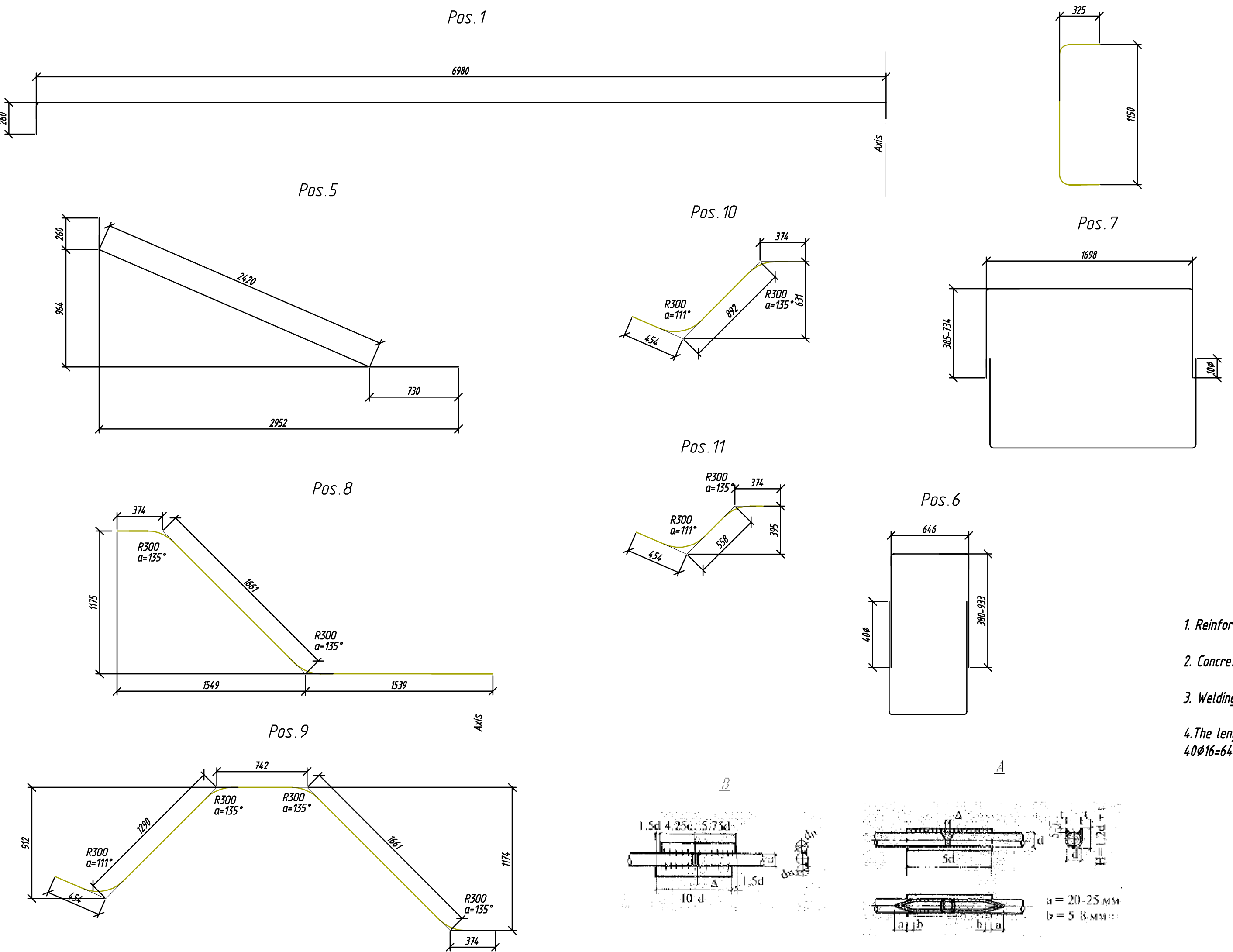
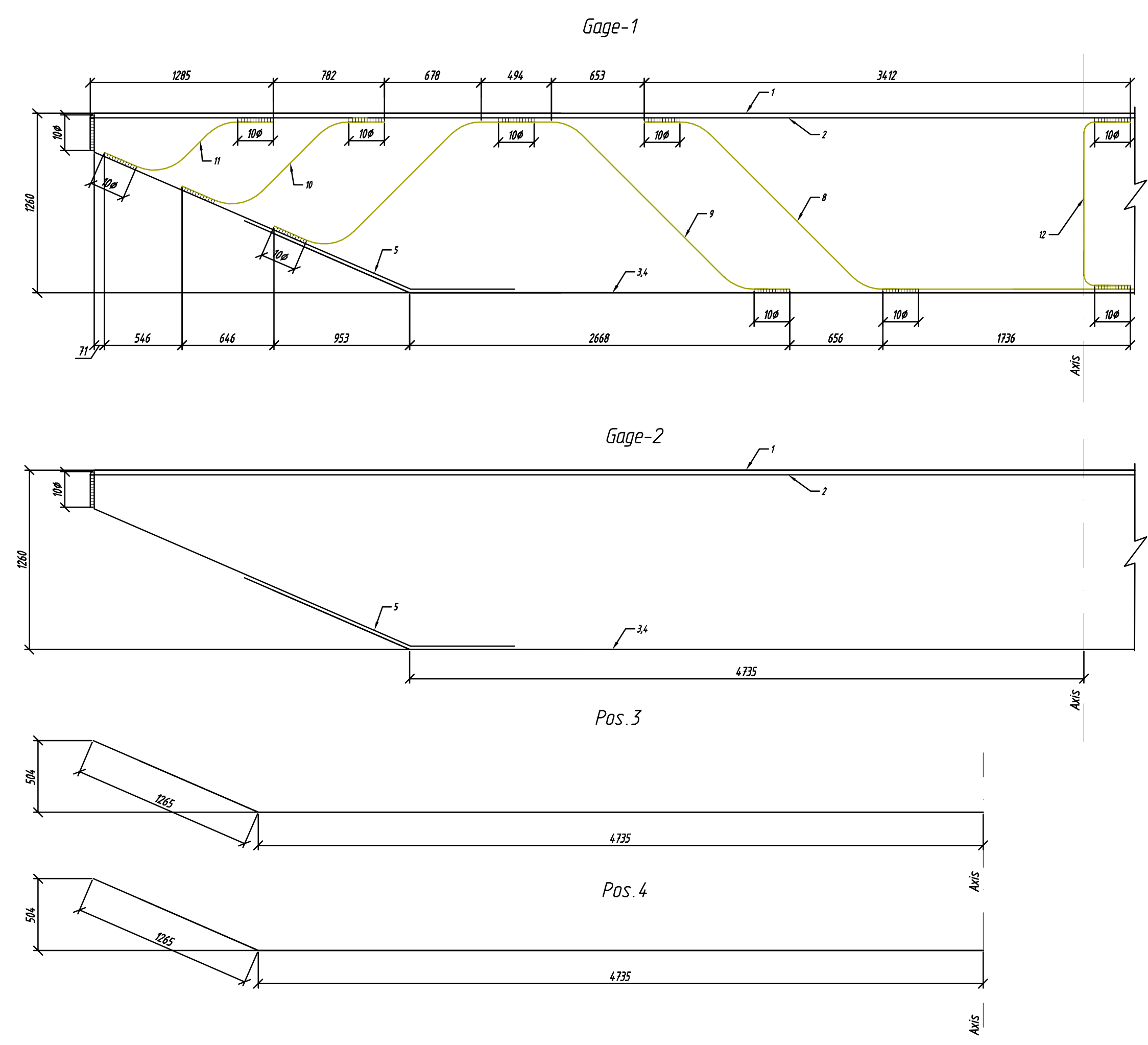


Register of steel consumption per element, kg

Mark of element	Reinforcement				Total
	BS4449:2005 (B500B)				
	ø14	ø16	ø25	ø32	
CB-2	1032.40	2003.11	2390.18	2153.40	7579.09

Specification of element, kg

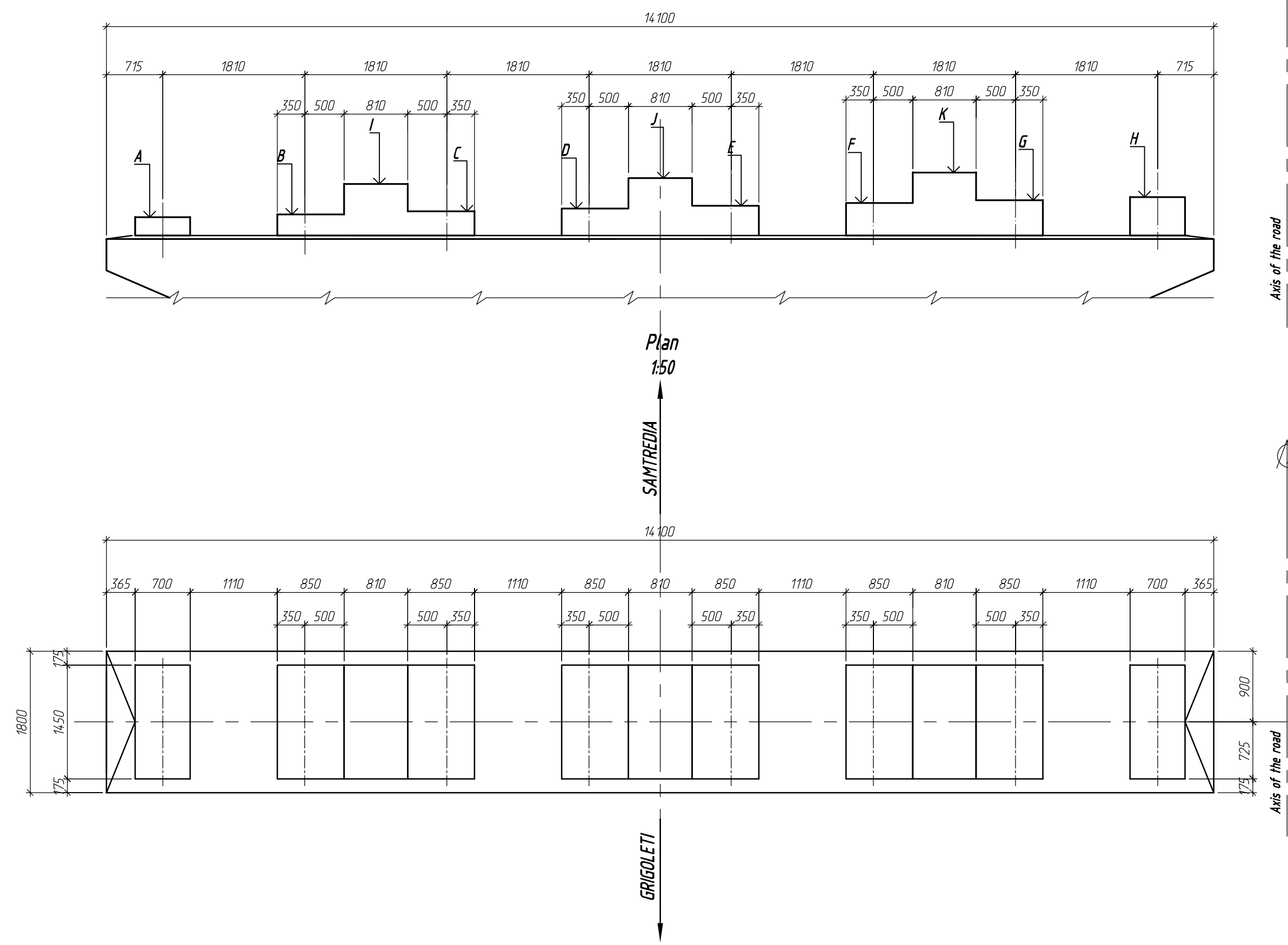
Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
Prefabricated units				
C-1	Cage C-1	10	394.76	3947.60
1	ø32 B500B BS 4449:2005, L=14480 mm	1	91.37	91.37
2	ø32 B500B BS 4449:2005, L=13960 mm	1	88.08	88.08
3	ø25 B500B BS 4449:2005, L=12000 mm	1	46.20	46.20
4	ø25 B500B BS 4449:2005, L=12000 mm	1	46.20	46.20
5	ø25 B500B BS 4449:2005, L=3410 mm	2	13.12	26.24
8	ø25 B500B BS 4449:2005, L=3574 mm	2	13.76	27.52
9	ø25 B500B BS 4449:2005, L=4975 mm	2	19.15	38.30
10	ø25 B500B BS 4449:2005, L=1720 mm	2	6.62	13.24
11	ø25 B500B BS 4449:2005, L=1386 mm	2	5.33	10.66
12	ø25 B500B BS 4449:2005, L=1800 mm	1	6.93	6.93
C-2	Cage C-2	2	298.06	596.12
1	ø32 B500B BS 4449:2005, L=14480 mm	1	91.37	91.37
2	ø32 B500B BS 4449:2005, L=13960 mm	1	88.08	88.08
3	ø25 B500B BS 4449:2005, L=12000 mm	1	46.20	46.20
4	ø25 B500B BS 4449:2005, L=12000 mm	1	46.20	46.20
5	ø25 B500B BS 4449:2005, L=3410 mm	2	13.12	26.24
Details				
6	ø14 B500B BS 4449:2005, L=1400-2505mm Layer=2400 mm	356	2.90	1032.40
7	ø16 B500B BS 4449:2005, L=2462-3160mm Layer=3050 mm	178	4.81	856.18
13	ø16 B500B BS 4449:2005, L=1800-3300mm installation step 150 mm Layer=1310 mm	8	20.71	165.68
14	ø16 B500B BS 4449:2005, L=1170 mm	414	1.85	765.90
15	ø16 B500B BS 4449:2005, L=1490 mm	135	2.35	317.25
Other materials				
16	Concrete C30/37, XC-2, XD-3, XF-1, S4, D22			31,4 m³



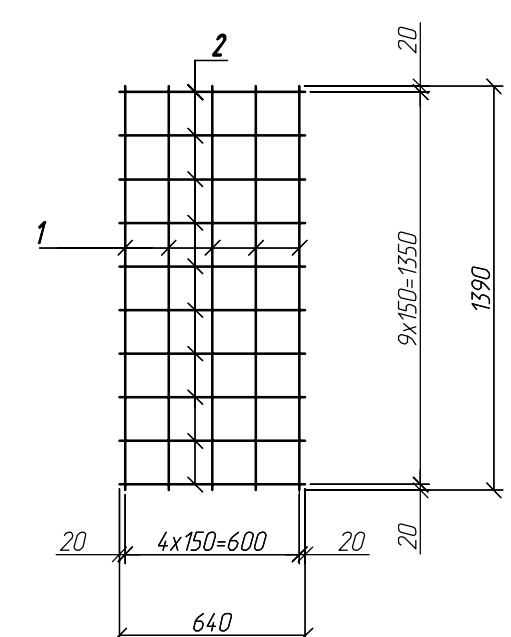
1. Reinforcement must be corresponds to BS 4449 u BS 4483 (in accordance with technical specification).
2. Concrete must be corresponds to BS 8500-1 u BS 8500-2 (in accordance with technical specification).
3. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).
4. The length of the rods pos.13 is given in the specification, taking into account the overlap of reinforcement - 40ø16=640 mm.

ALT-PK 54-08-125-N-K		Construction of Santredia - Griogletti road section of E-60 km 0 +000 - km 11 +500		
Proj. Manag. A. Valukin	Checked by H. Garabinskaya	Exec. by R. Garpolyuk	Stage	Sheet
			WD	1
			Structure of crossbeam of intermediate piers	1
"Road Building "Altcom" LLC				

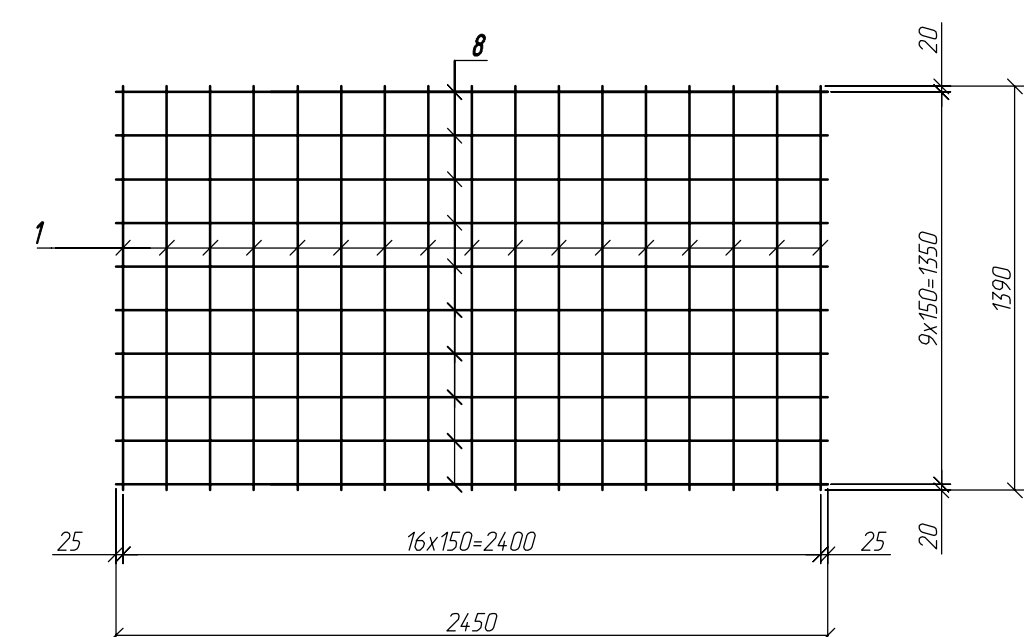
Supporting bedding SB-2
Falsework diagram
Front
1:50



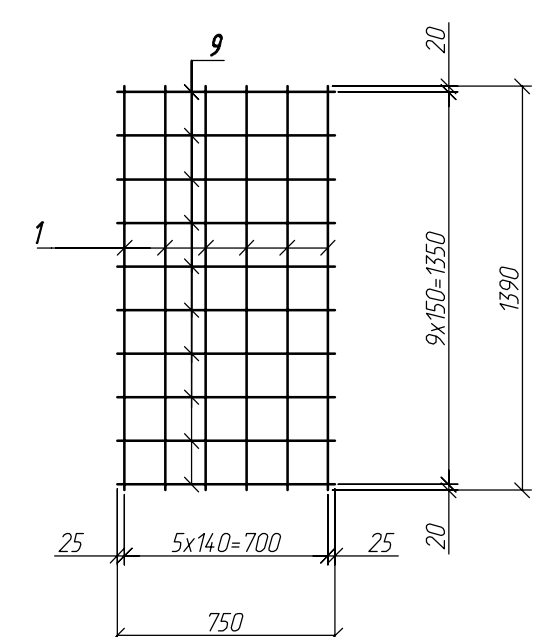
Grid G-1
1:25



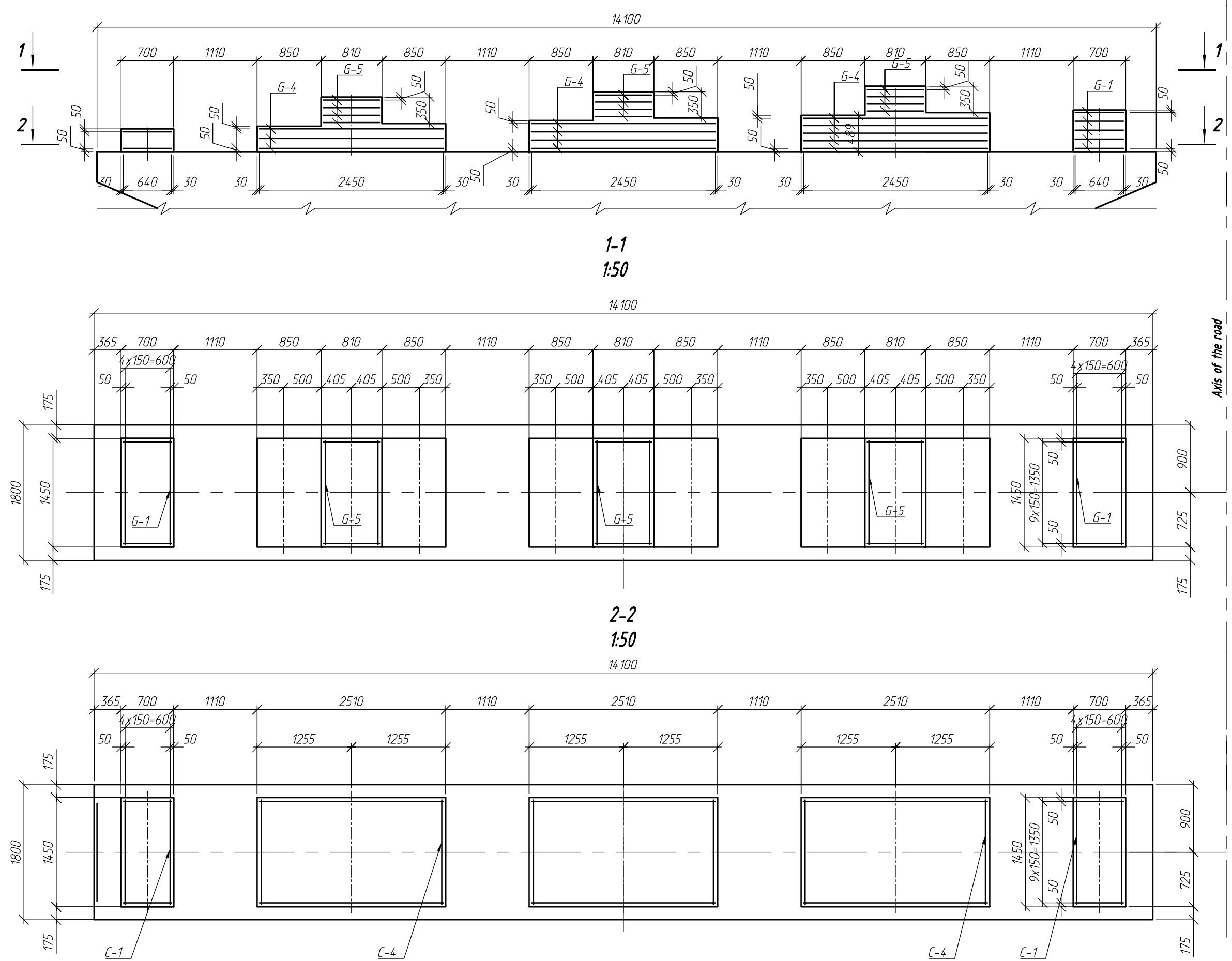
Grid G-4
1:25



Grid G-5
1:25



Supporting bedding SB-2
Reinforcement diagram
Front
1:50



1. Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).
2. Concrete must be corresponds to BS 8500-1 and BS 8500-2 (in accordance with technical specification).
3. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

Register of steel consumption per element, kg

Mark of element	Reinforcement		Total
	BS 4449:2005 (B500B)		
	Ø16	Total	
SB-2	1358.50	1358.50	1358.5

The table of elevations at the left carriageway

Pos.	A	B	C	D	E	F	G	H	I	J	K
Pier №2L	24,444	24,48	24,516	24,552	24,589	24,625	24,661	24,697	24,866	24,939	25,011
Pier №3L	24,462	24,498	24,534	24,57	24,606	24,643	24,679	24,715	24,884	24,956	25,029
Pier №4L	24,461	24,497	24,533	24,57	24,606	24,642	24,678	24,714	24,883	24,956	25,028
Pier №5L	24,442	24,479	24,515	24,551	24,587	24,623	24,66	24,696	24,865	24,937	25,01

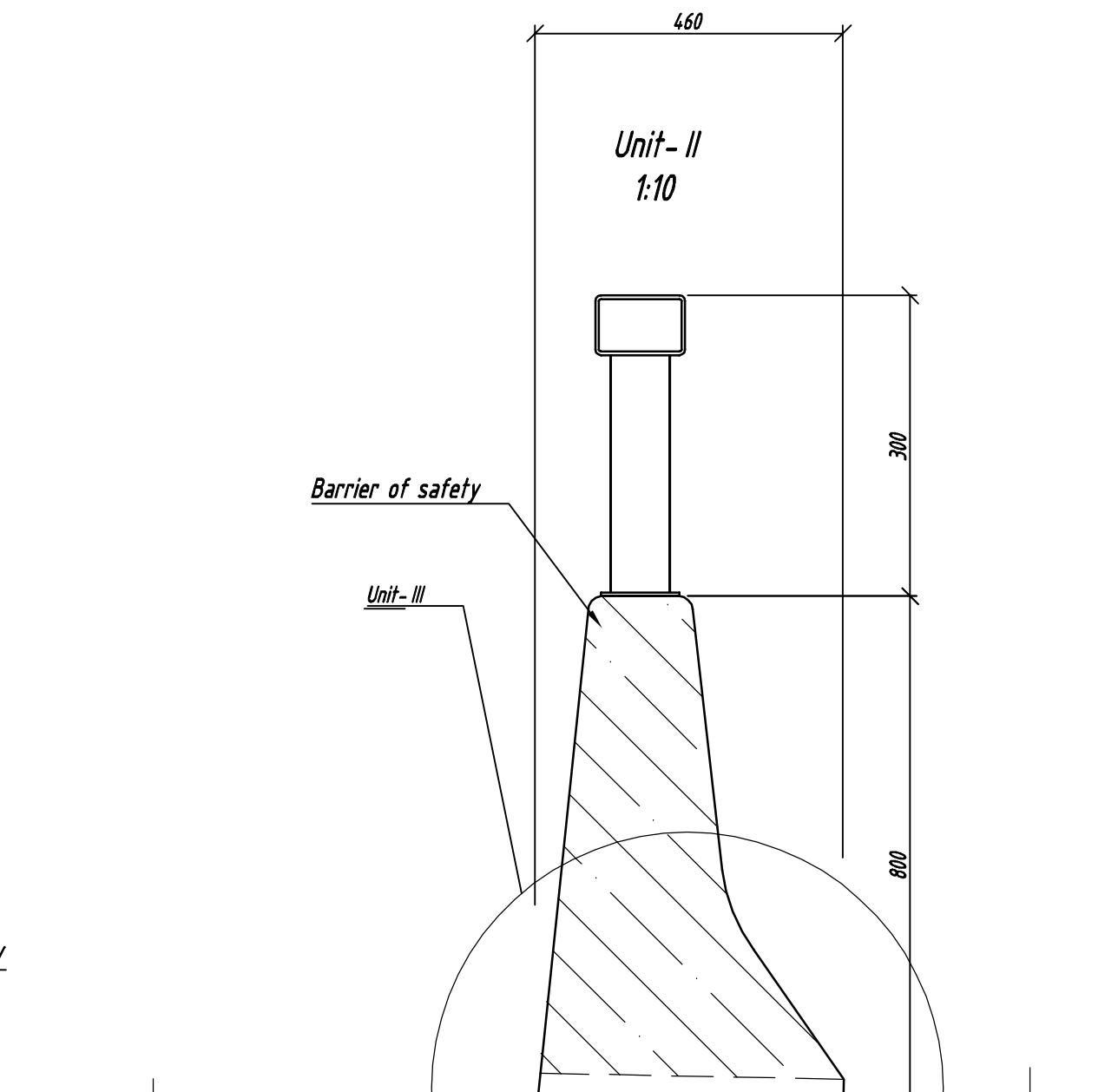
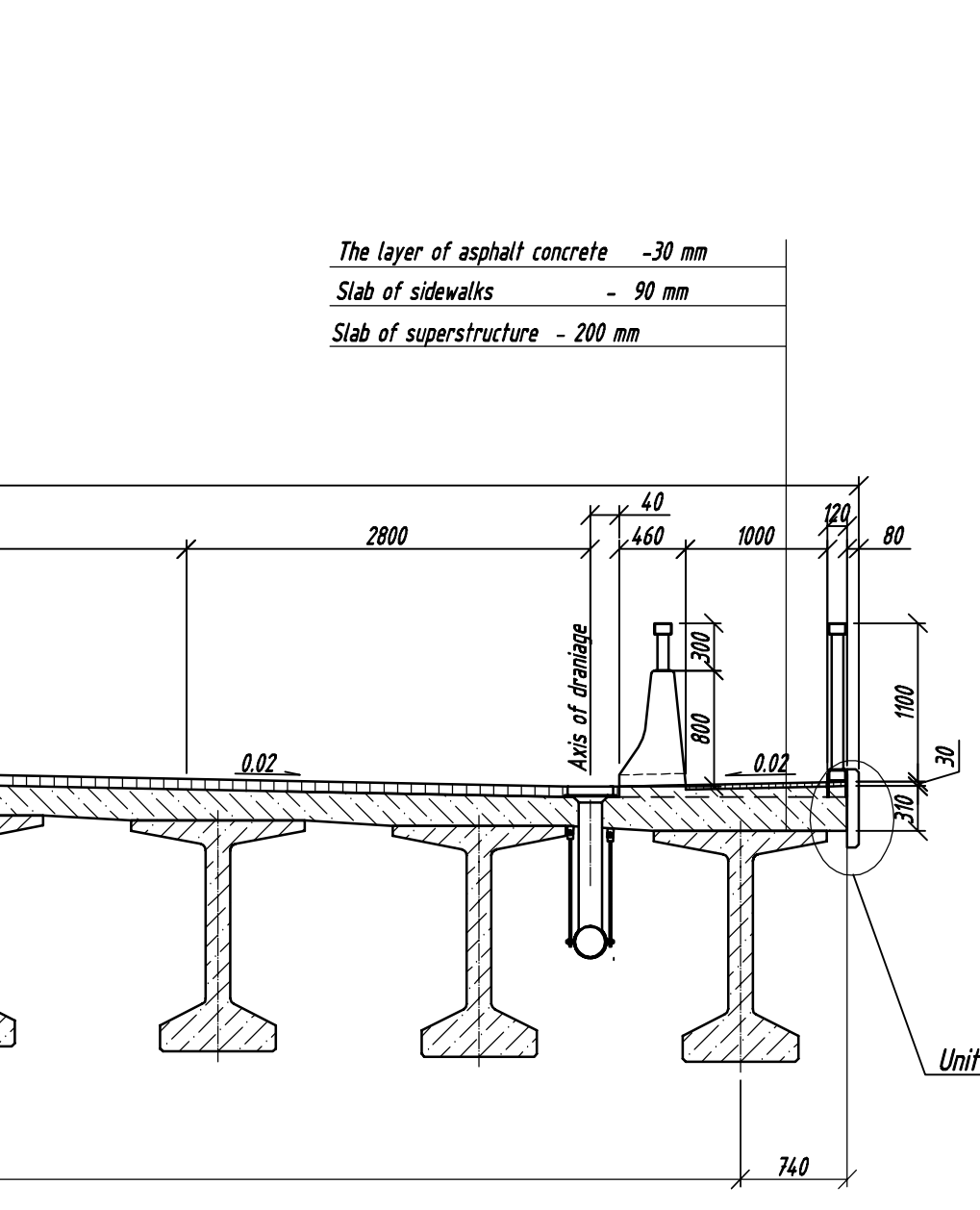
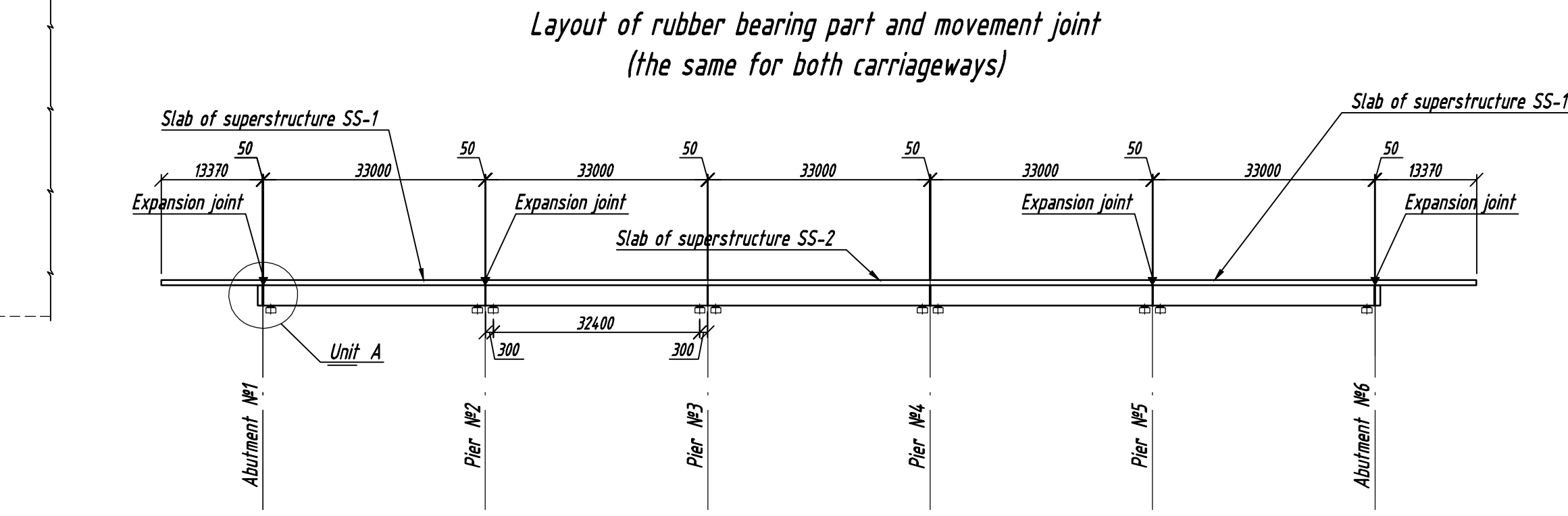
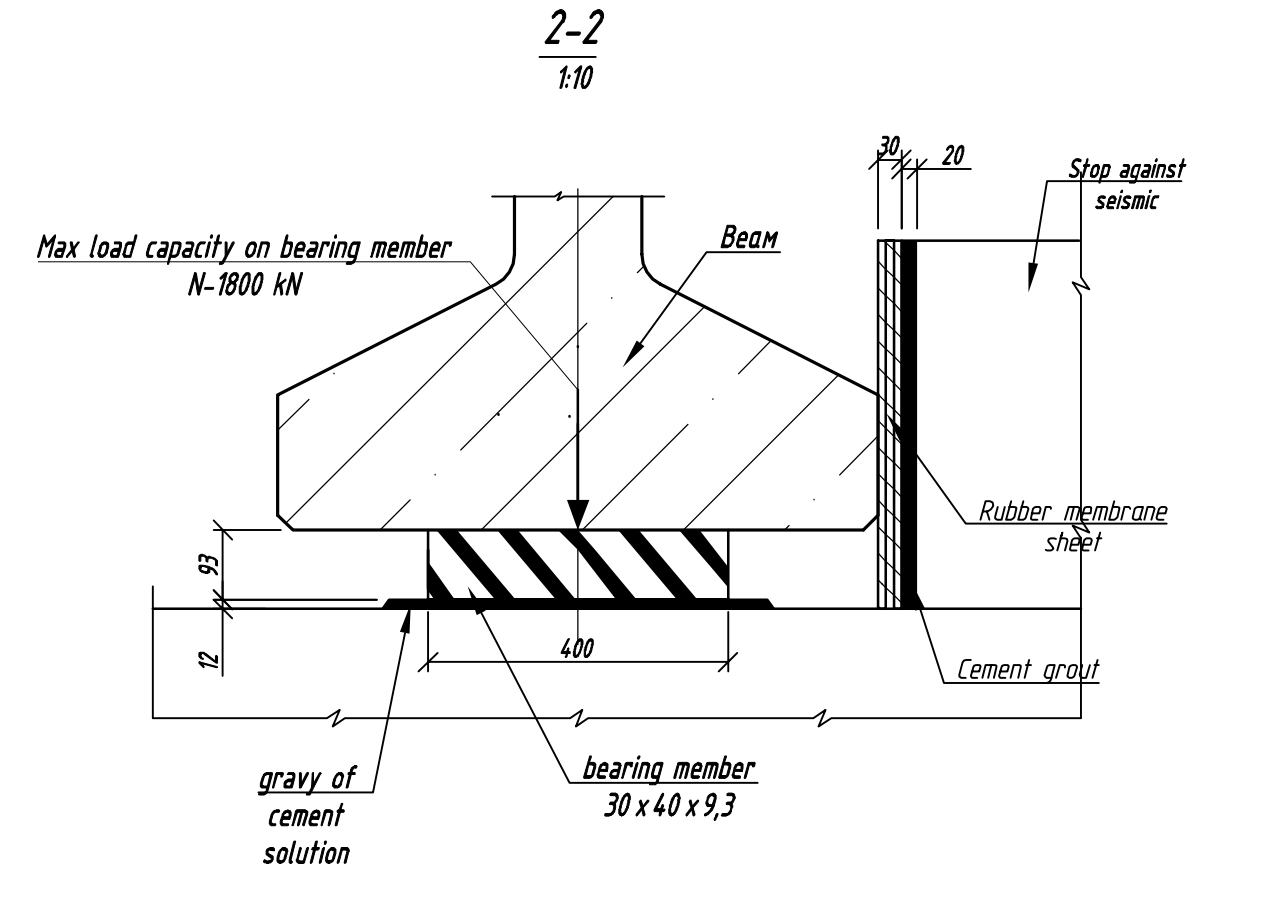
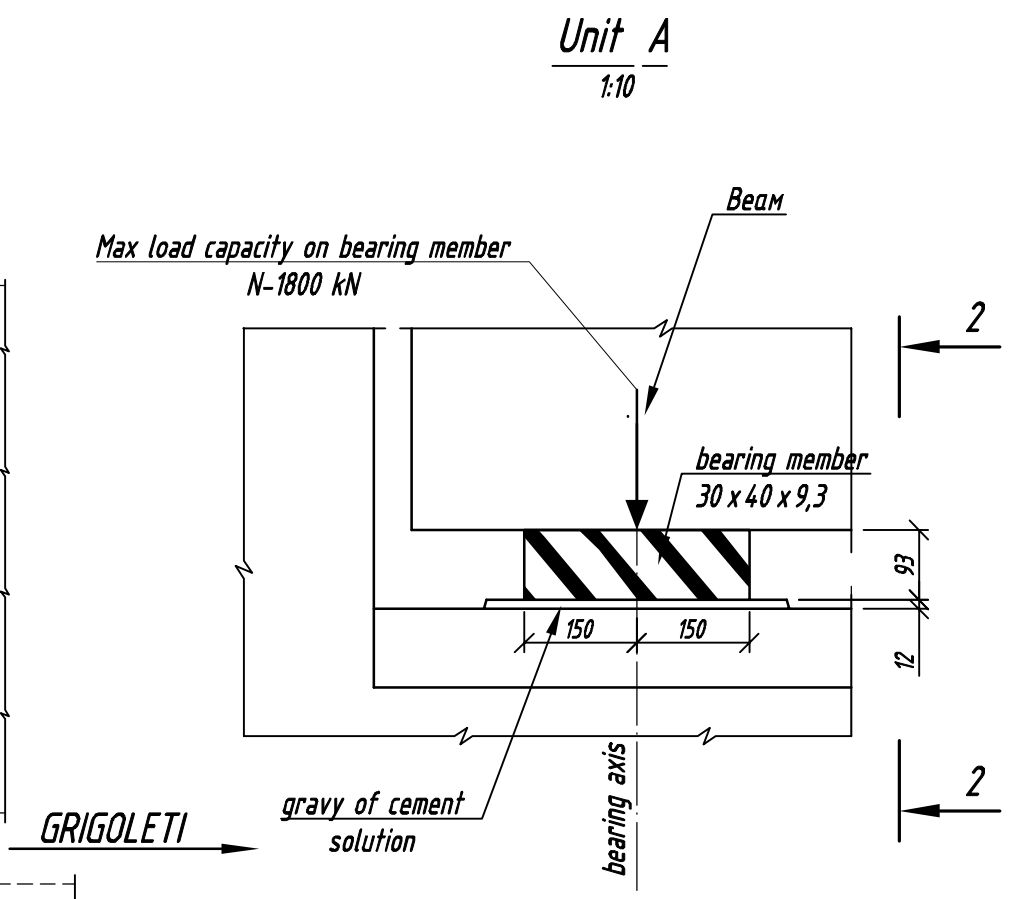
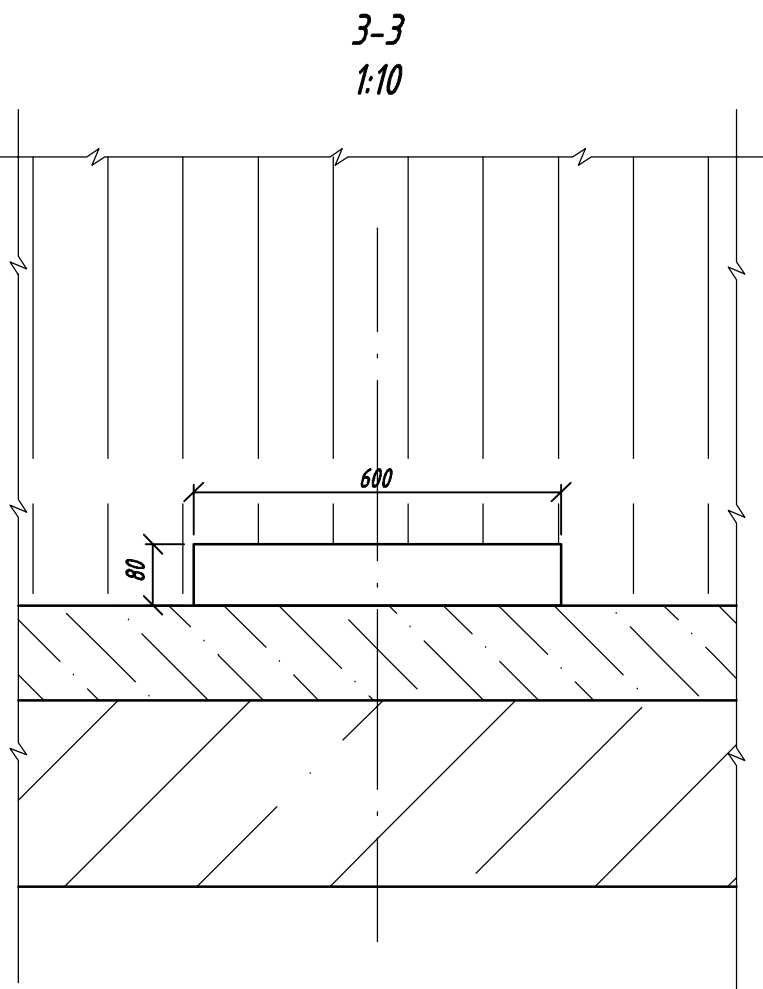
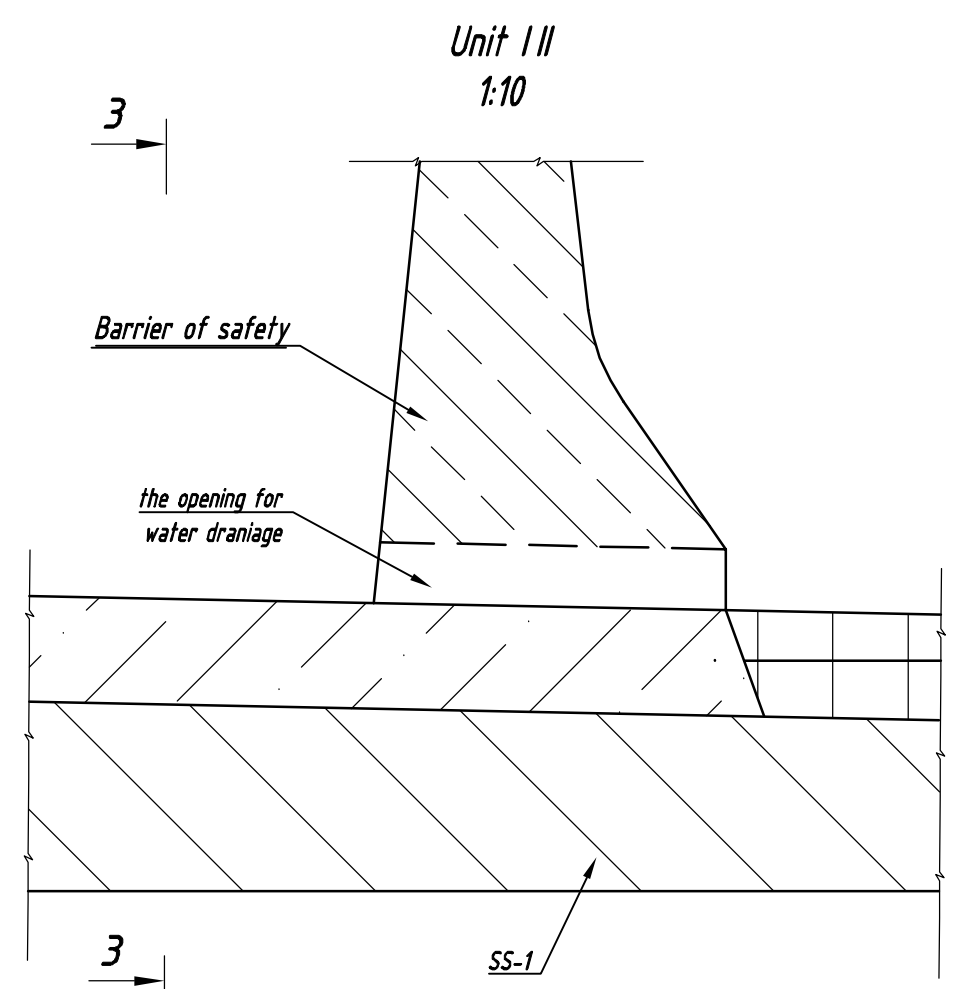
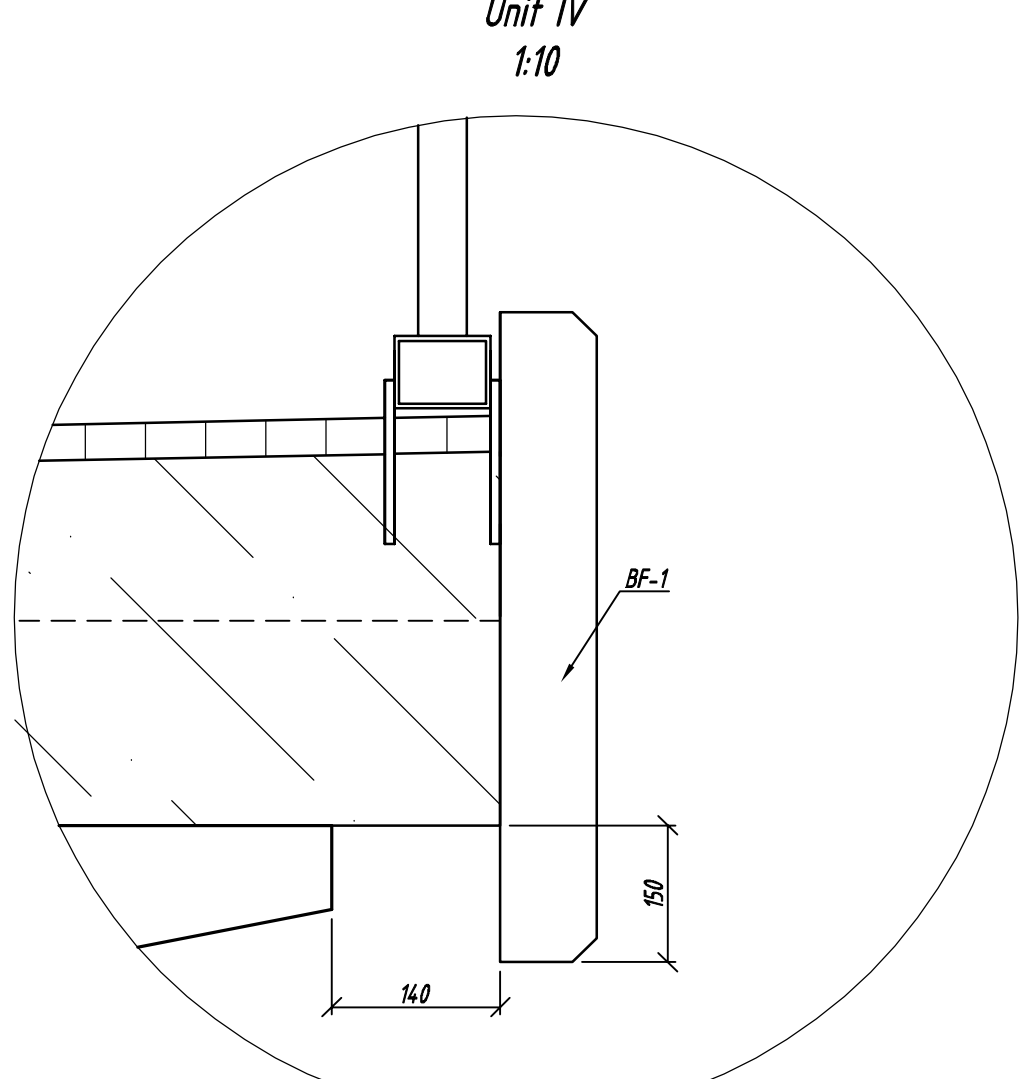
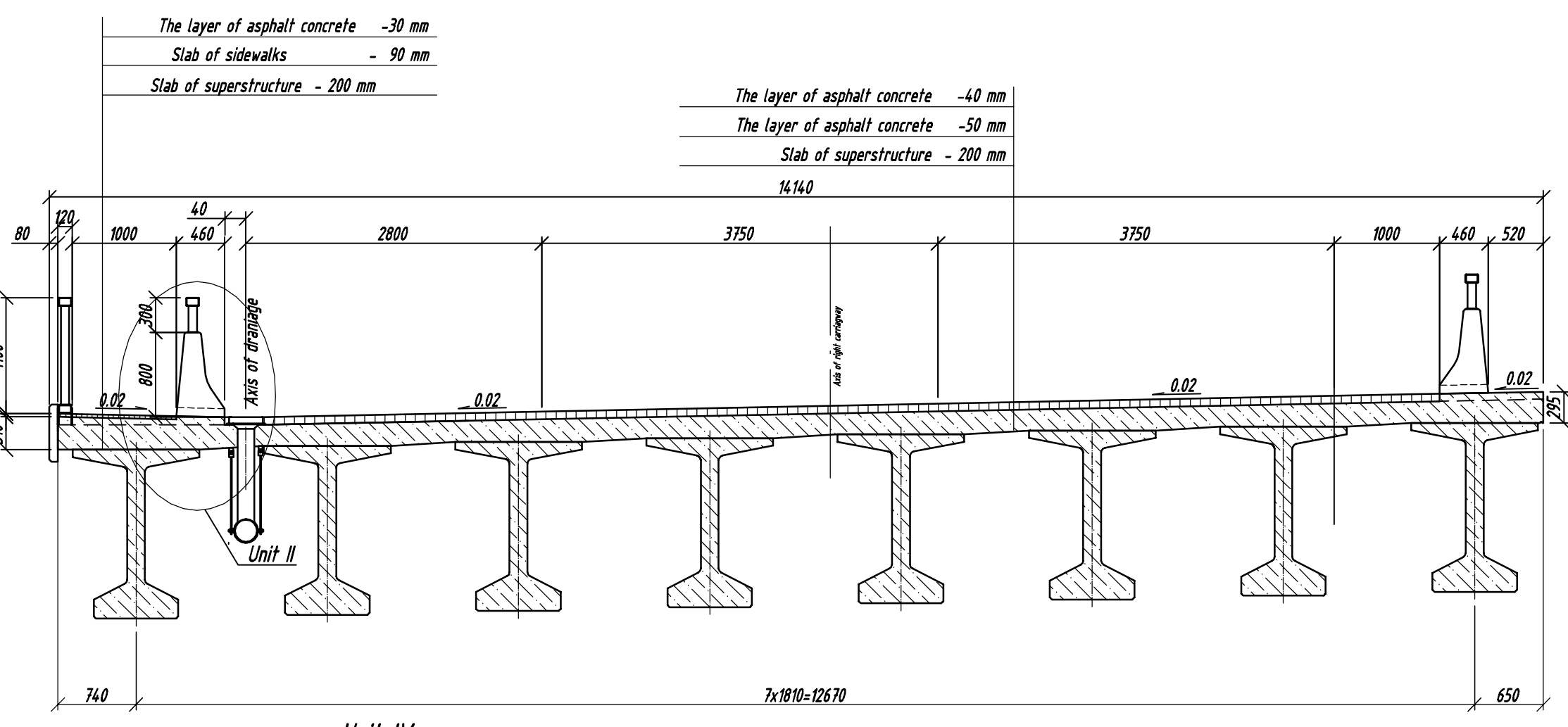
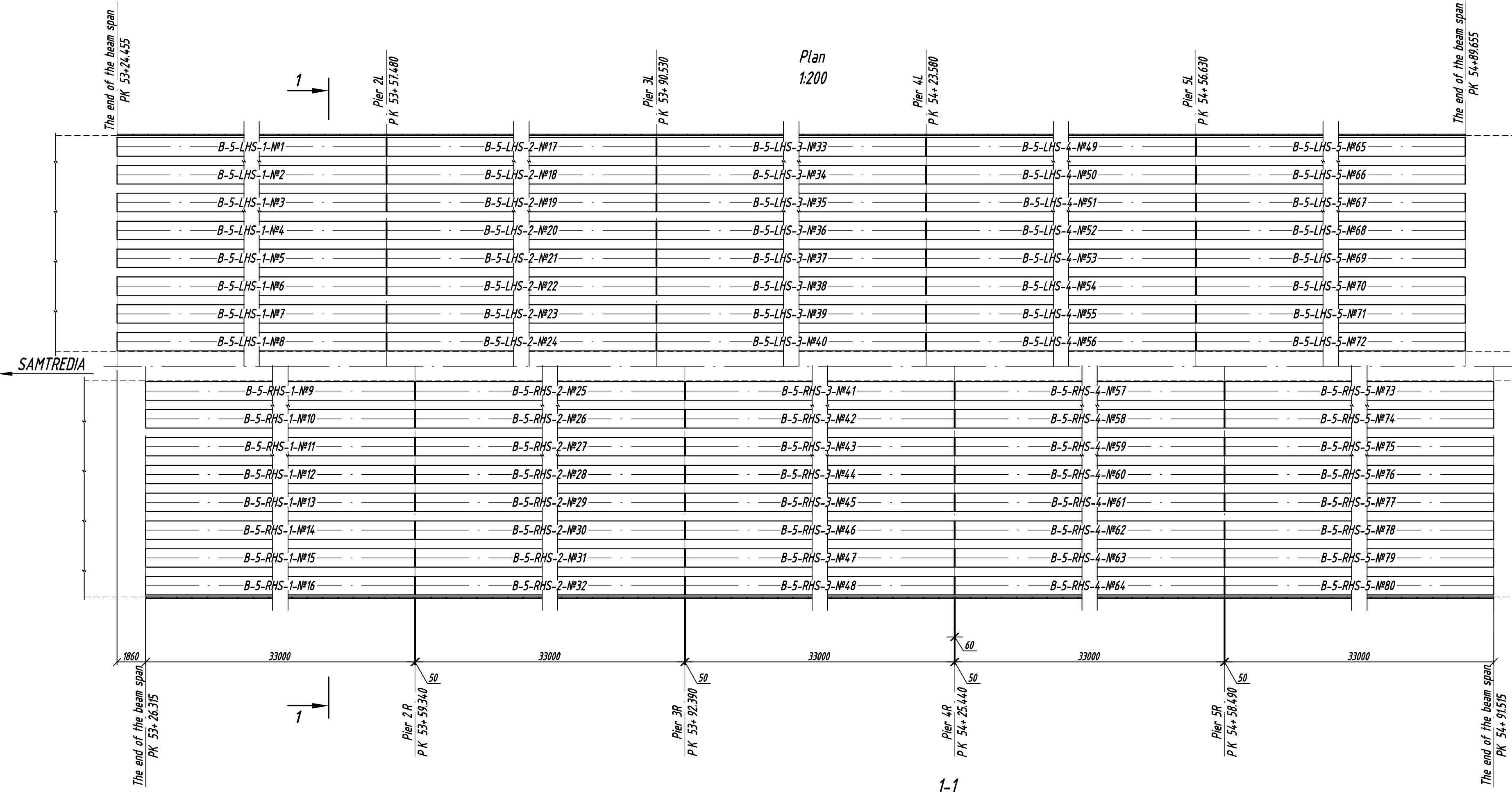
The table of elevations at the right carriageway

Pos.	A	B	C	D	E	F	G	H	I	J	K
Pier №2R	24,442	24,479	24,515	24,551	24,587	24,623	24,66	24,696	24,865	24,937	25,01
Pier №3R	24,461	24,497	24,533	24,57	24,606	24,642	24,678	24,714	24,883	24,956	25,028
Pier №4R	24,462	24,498	24,534	24,57	24,606	24,643	24,679	24,715	24,884	24,956	25,029
Pier №5R	24,444	24,48	24,516	24,552	24,589	24,625	24,661	24,697	24,866	24,939	25,011

Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<i>Prefabricated units</i>				
G-1	Grid G-1	7	21.1	147.70
1	Ø16 B 500 B BS 4449:2005, L=1390	5	2.20	11.00
2	Ø16 B 500 B BS 4449:2005, L=640	10	1.01	10.10
G-4	Grid G-4	12	76.10	913.20
1	Ø16 B 500 B BS 4449:2005, L=1390	17	2.20	37.40
8	Ø16 B 500 B BS 4449:2005, L=2450	10	3.87	38.70
G-5	Grid G-5	12	24.80	297.60
1	Ø16 B 500 B BS 4449:2005, L=1390	6	2.20	13.20
9	Ø16 B 500 B BS 4449:2005, L=750	10	1.16	11.60
<i>Other materials</i>				
	Concrete C25/30, XC-4, XD-3, XF-3, S4, D22		6,9 m³	kit

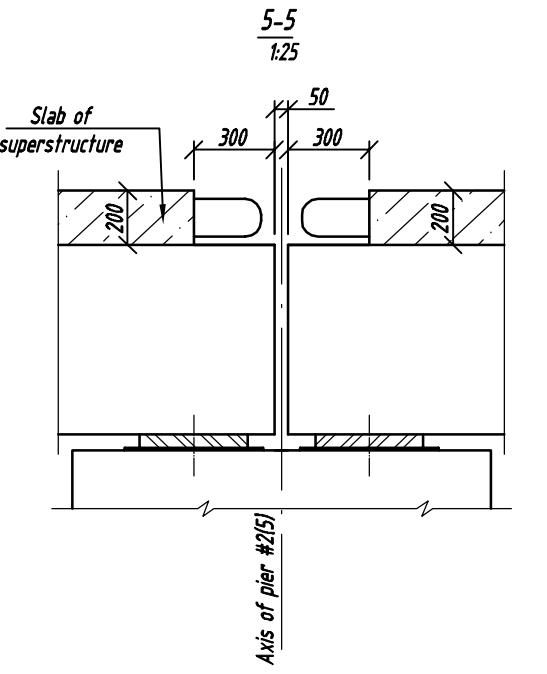
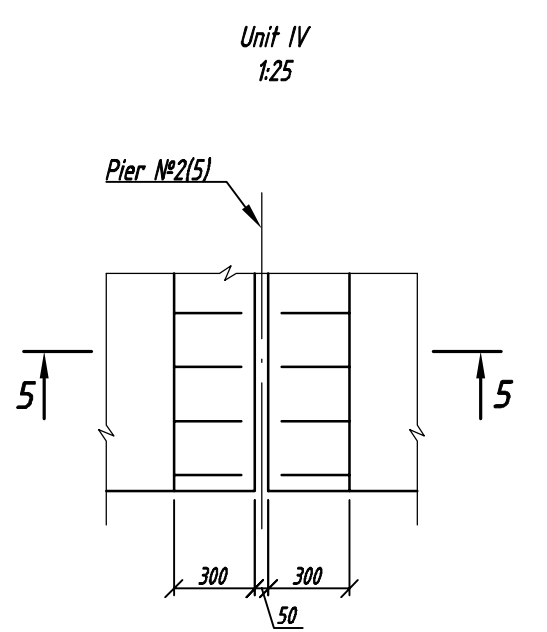
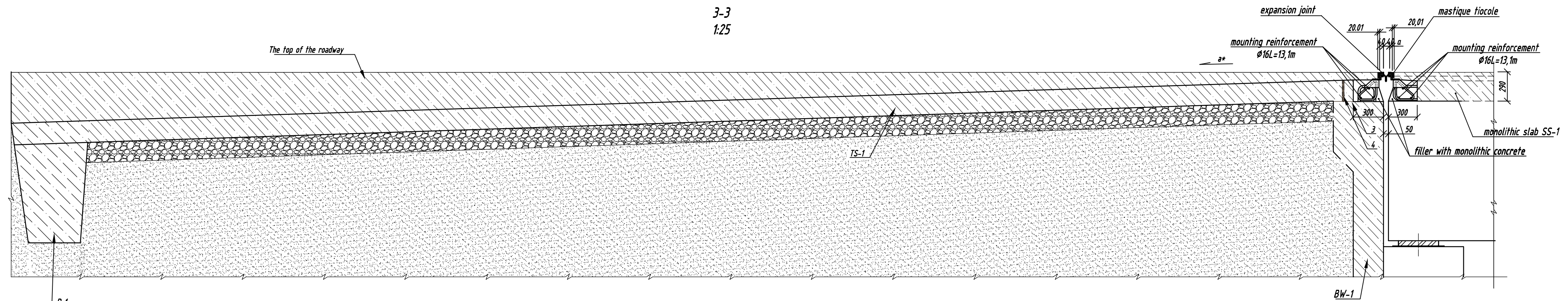
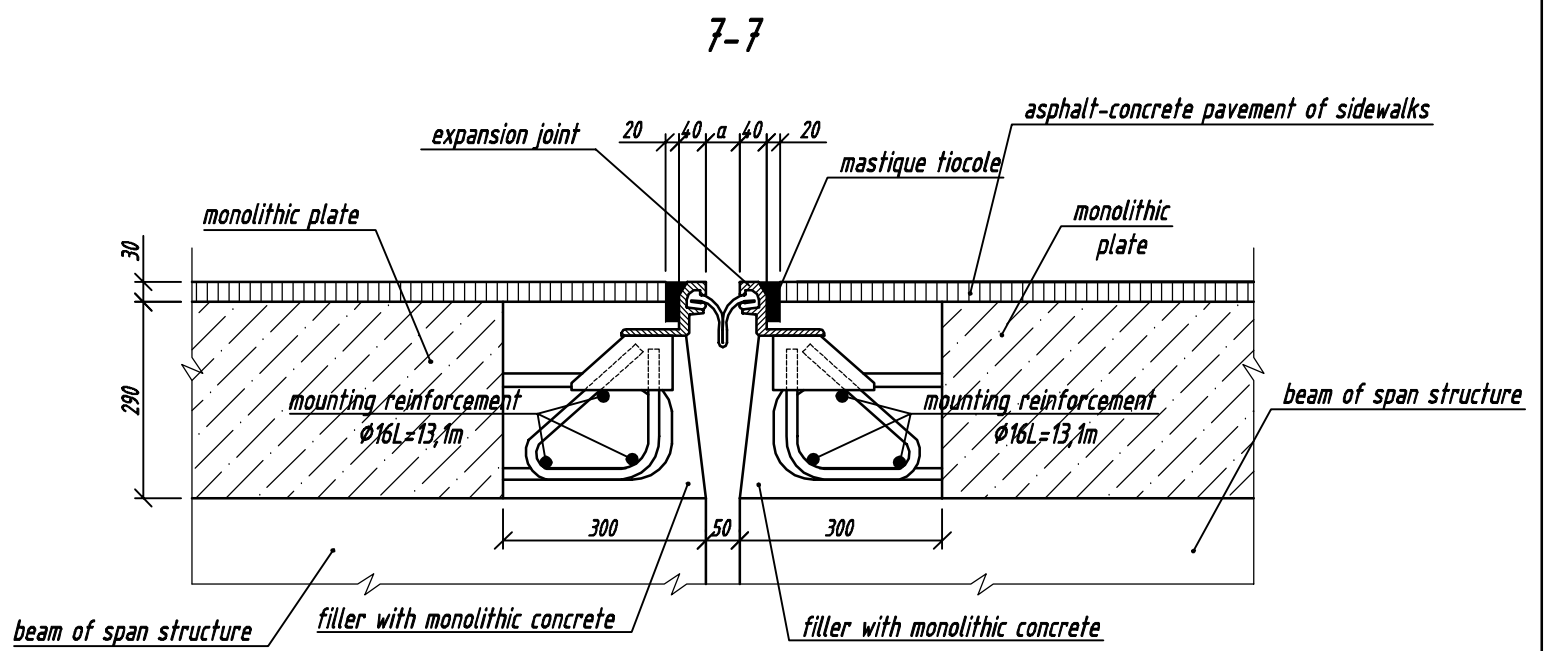
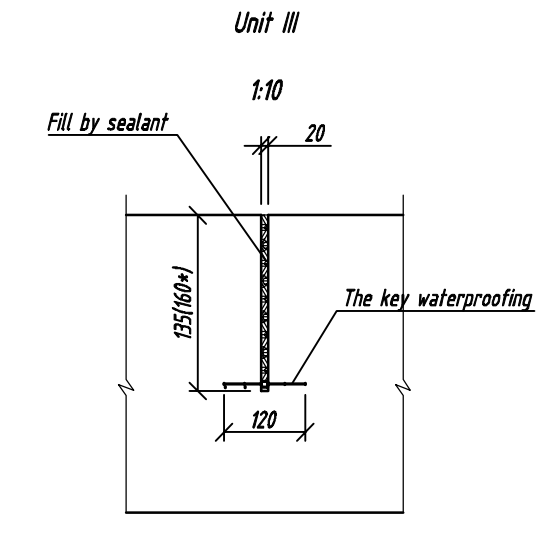
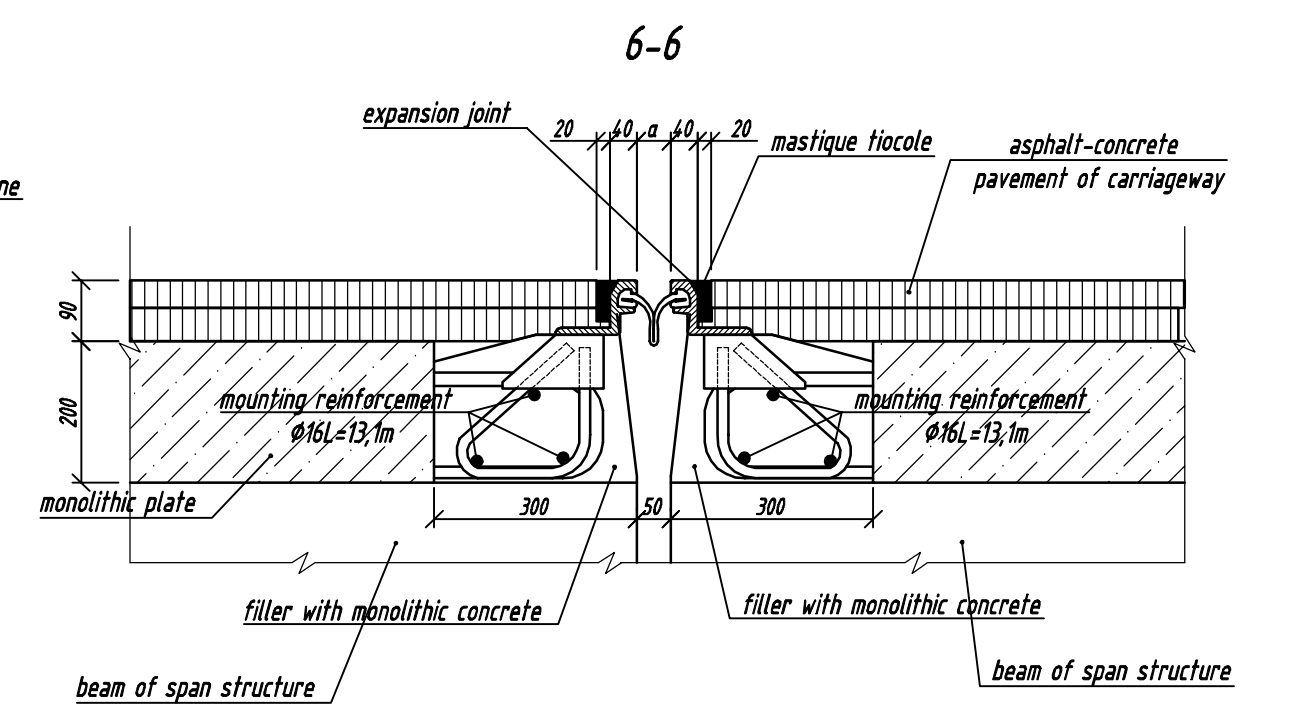
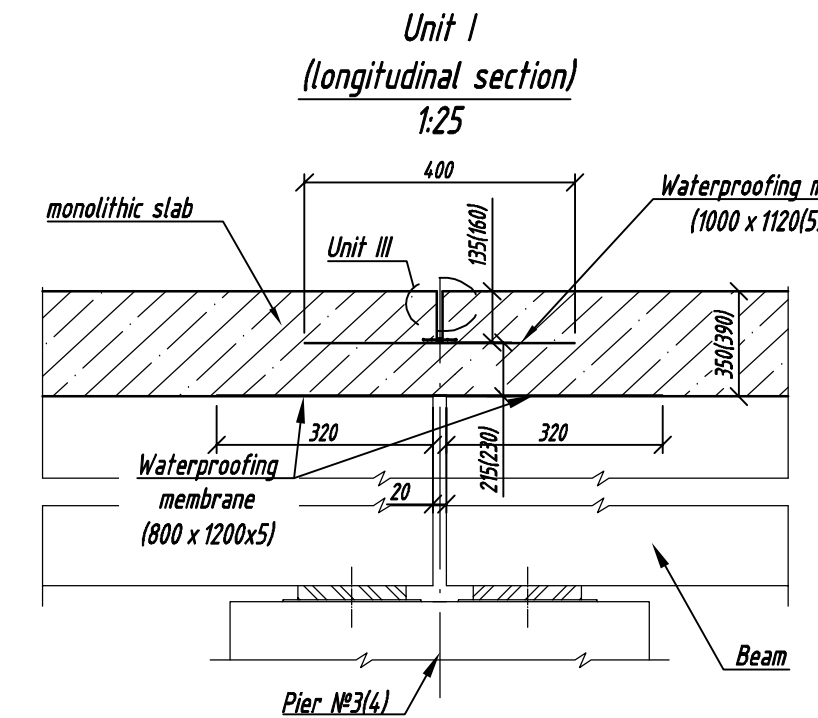
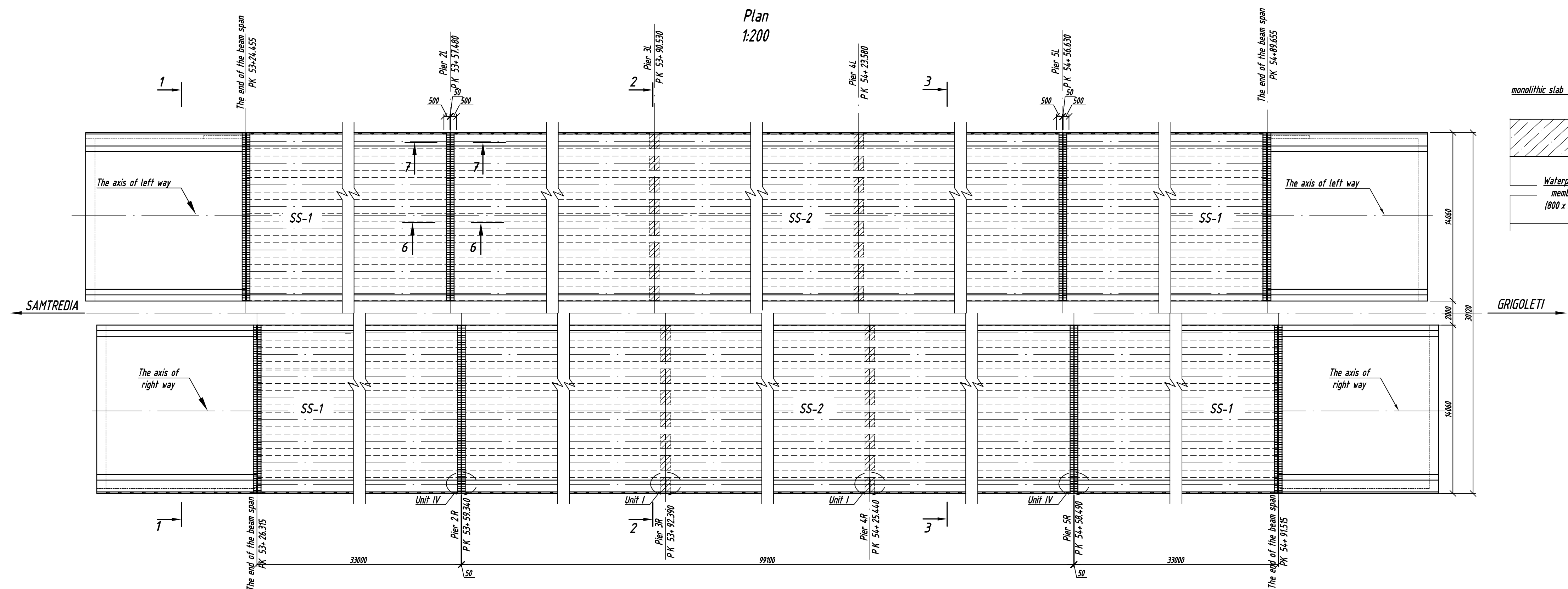
ALT-PK 54+08-125-15				Construction of Samtredia - Grigoleti road section of E-60 km 0+000 - km 11+500			
Project Manager	A. Vukulin	Checked by	H. Gorabinskaya	Exec. by	R. Garpolyuk	Stage	WD
Structure of supporting bedding's and stops against seismicity of intermediate piers						Sheet	1
						Sheets	1
						"Road Building" Altcom LLC	



Specification of superstructure

Mark	Description	Name	RCW	LCW	Total	Remark
B-1		Beam	40	40	80	unit
BF-1		Block of facade	160	160	320	unit
BF-2(3)						
SR-1		Steel railing	60	60	120	unit
SR-2						
SR-3						
BS-1		Barrier of safety	165.3	165.3	330.5	Lm
SS-1		Slab of superstructure	497.7	497.7	995.4	m ²
SS-2						
EJ-1		Expansion joint	56.2	56.2	112.5	Lm
P		Parapets on wings	2.8	2.8	5.6	m ²

ALT-PK 54+08-125-16-K		Construction of Samtredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500	
Proj. Manag.	A. Valukin	Stage	WD
Checked by	H. Gorabinskaya	Sheet	1
Exec. by	R. Garpolyuk	Sheets	1
Spans. Wiring Diagram.		"Road Building "Altcom" LLC	



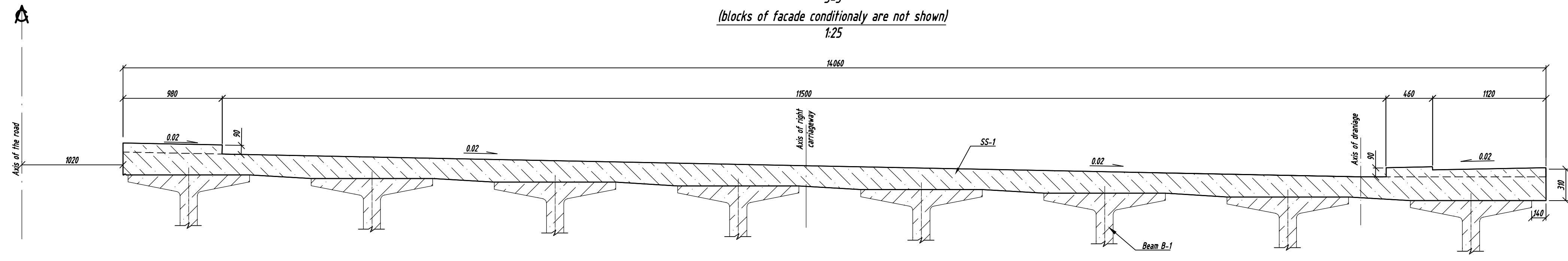
3-3
1:25

3-3
(blocks of facade conditionally are not shown)
1:25

Specification of superstructure

Pos.	Name	RCW	LCW	Total	Remark
SS-1	Slab of superstructure	2	2	4	99,5m ³
SS-2	Slab of superstructure	1	1	2	298,5 m ³
ED	E mbedded detail	165	165	330	4 kg
1	The key waterproofing				16,0 Ln
2	Waterproofing membrane (1650 x 1200 x 5)				
3	Waterproofing membrane (200 x 14060 x 5)				
4	Sealant				0,02 m ³

1. Monolithic slabs SS-1, SS-2 of span structure - of individual structure and complies with norms.
2. Transverse slope of carriageway is constructed by the way of construction on beams on under forms of different height.
3. Transverse crossing for left carriageway - mirror reflection of crosssections shown on drawings.
4. Monolithic slabs of left and right carriageway are symmetric to the axis of highway.

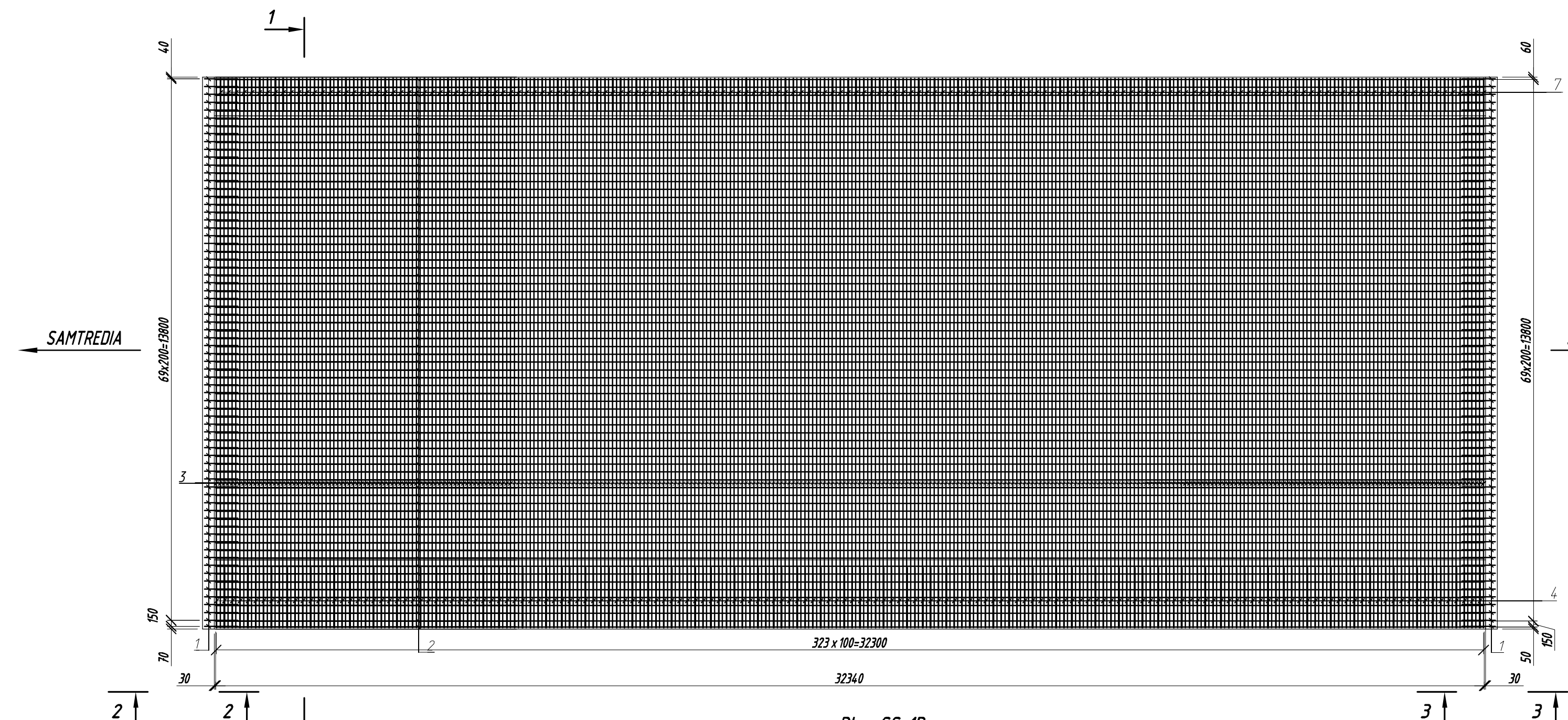


ALT-PK 54-08-125-17-K		Construction of Samtredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500	
Proj/Manag	A. Vidukin	Stage	Sheet
Checked by	A. Garabinskaya	WD	1
Exec. by	R. Garpalyuk	Monolithic slab Formwork drawings	1

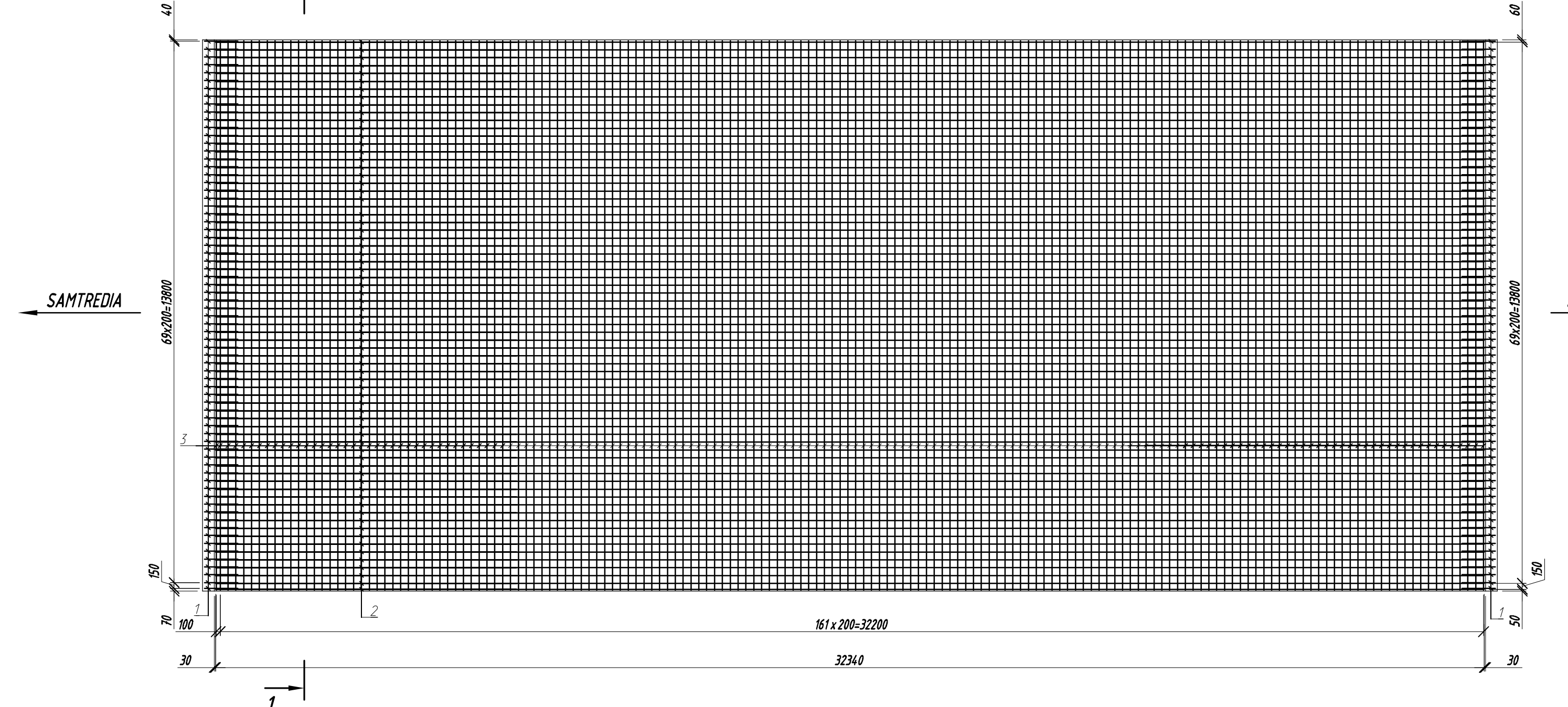
"Road Building" "Altcom" LLC



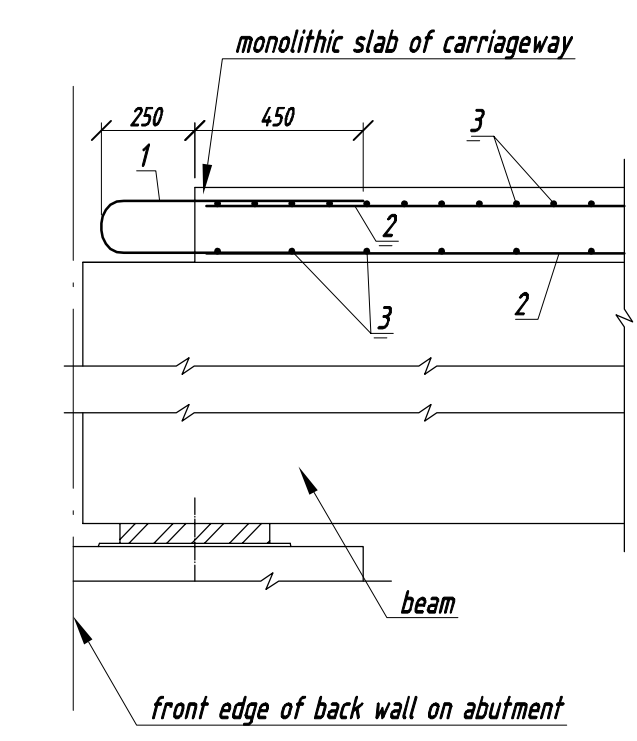
Plan SS-1R
 (location of upper reinforcement of monolithic slab)
 (reinforcement releases under guardrails and cornice blocks are not show conditionally)
 1:100



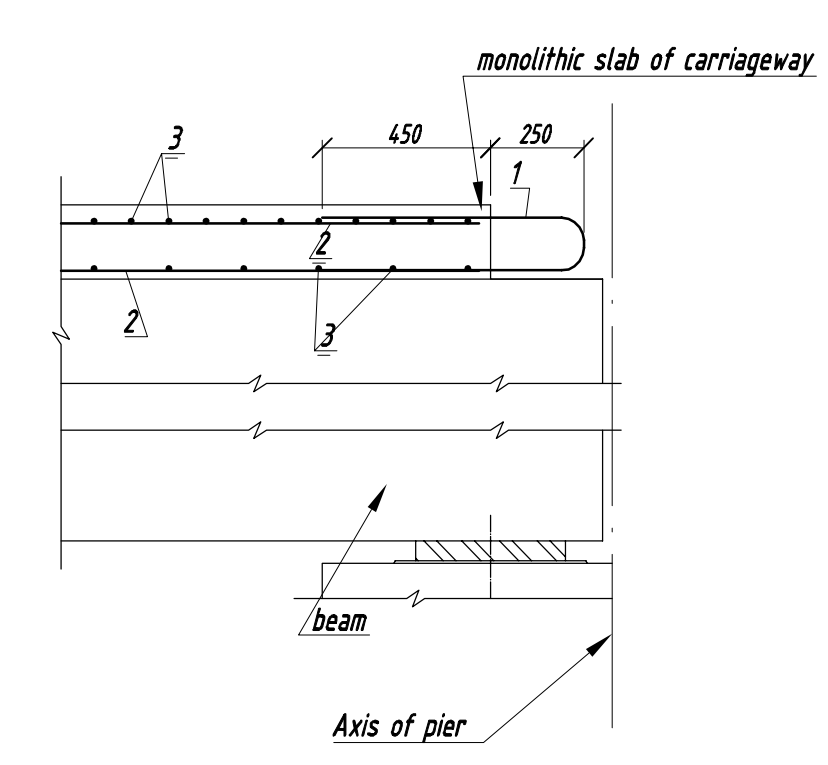
Plan SS-1R
 (location of lower reinforcement of monolithic slab)
 (reinforcement releases under guardrails and cornice blocks are not show conditionally)
 1:100



2-2
 installation of reinforcement releases
 for expansion joint
 N 1:20



3-3
 installation of reinforcement releases
 for expansion joint
 N 1:20



Register of steel consumption per element, kg

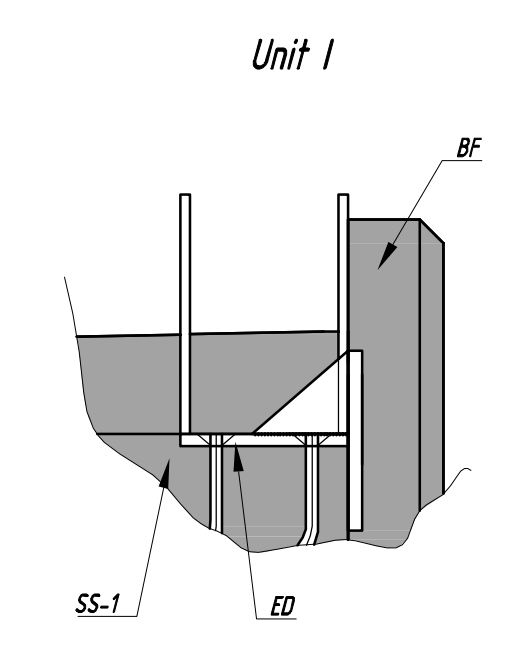
Mark of element	Reinforcement				Total
	BS 4449:2005 (B500B)				
	Ø8	Ø14	Ø16	Ø20	
SS-1R	554.78	5881.64	11350.88	553.80	18341.10

Specification per element, kg

Pos	Name	Quantity	Weight of unit, kg	Weight of all, kg
Prefabricated units				
1	Ø20 B500B BS 4449:2005, L=1580	142	3,90	553,80
2	Ø14 B500B BS 4449:2005, L=34230	142	41,42	5881,64
3	Ø16 B500B BS 4449:2005, L=14720	488	23,26	11350,88
4	Ø8 B500B BS 4449:2005, L=3660	161	1,44	231,84
5	Ø8 B500B BS 4449:2005, L=33420	13	13,2	171,6
6	Ø8 B500B BS 4449:2005, L=2380	161	0,94	151,34
Other materials				
7	Concrete C 40/50, XC-4, XD-3, XF-3, XA-1S4, D22			99,5m³
8	Concrete C 40/50, XC-4, XD-3, XF-3, XA-1S4, D22			8,16m³

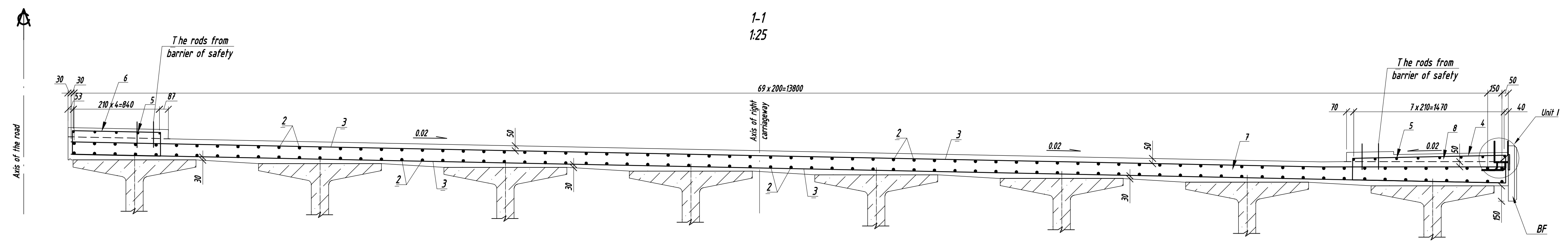
Register of items

Pos.	Sketch
1	
4	
6	



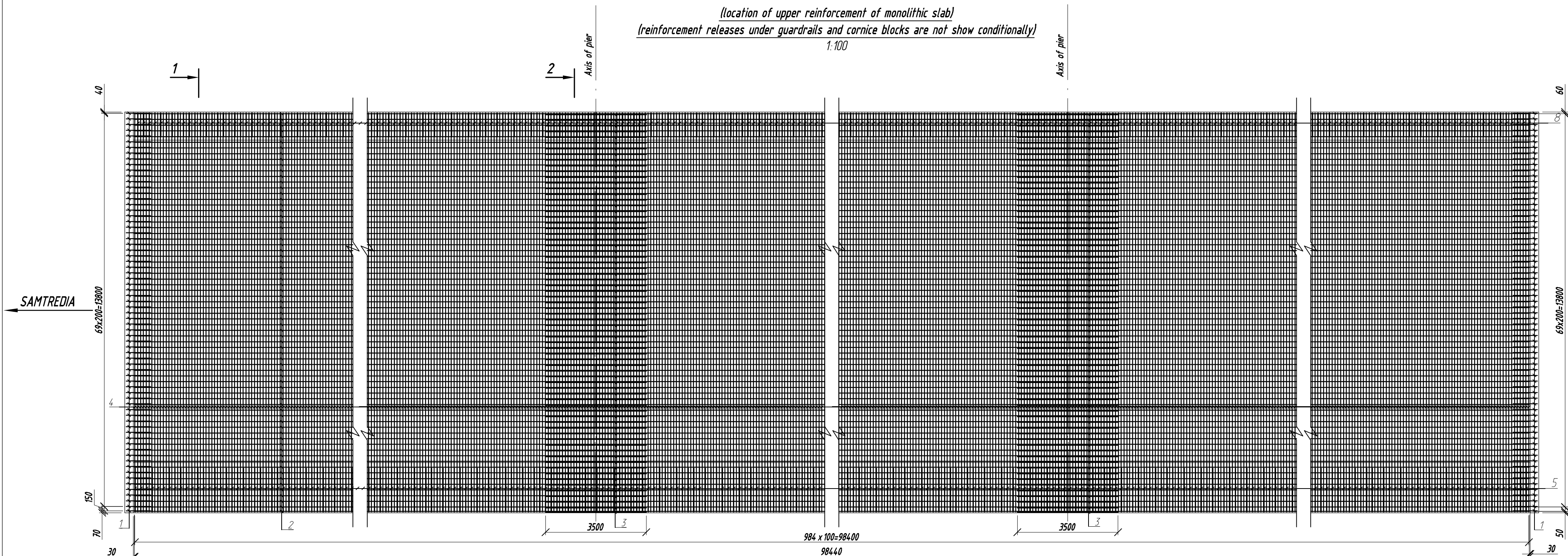
- In the drawing shown slab of superstructure SS-1R. Slab of superstructure SS-1L are symmetrical by this drawing.
- The length of the rods pos.2 is given in the specification, taking into account the seven overlaps of reinforcement $45 \times \phi 14 = 630$ mm.
- The length of the rods pos.3 is given in the specification, taking into account the overlap of reinforcement - $45 \times \phi 16 = 720$ mm.
- The length of the rods pos.5 is given in the specification, taking into account the overlap of reinforcement - $45 \times \phi 8 = 360$ mm.
- The blocks of facade install in the design position and fix before concreting of superstructure slab.
- Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).
- Concrete must be corresponds to BS 8500-1 and BS 8500-2 (in accordance with technical specification).
- Welding points must be corresponds to BS 7123 (in accordance with technical specification).

1-1
 1:25

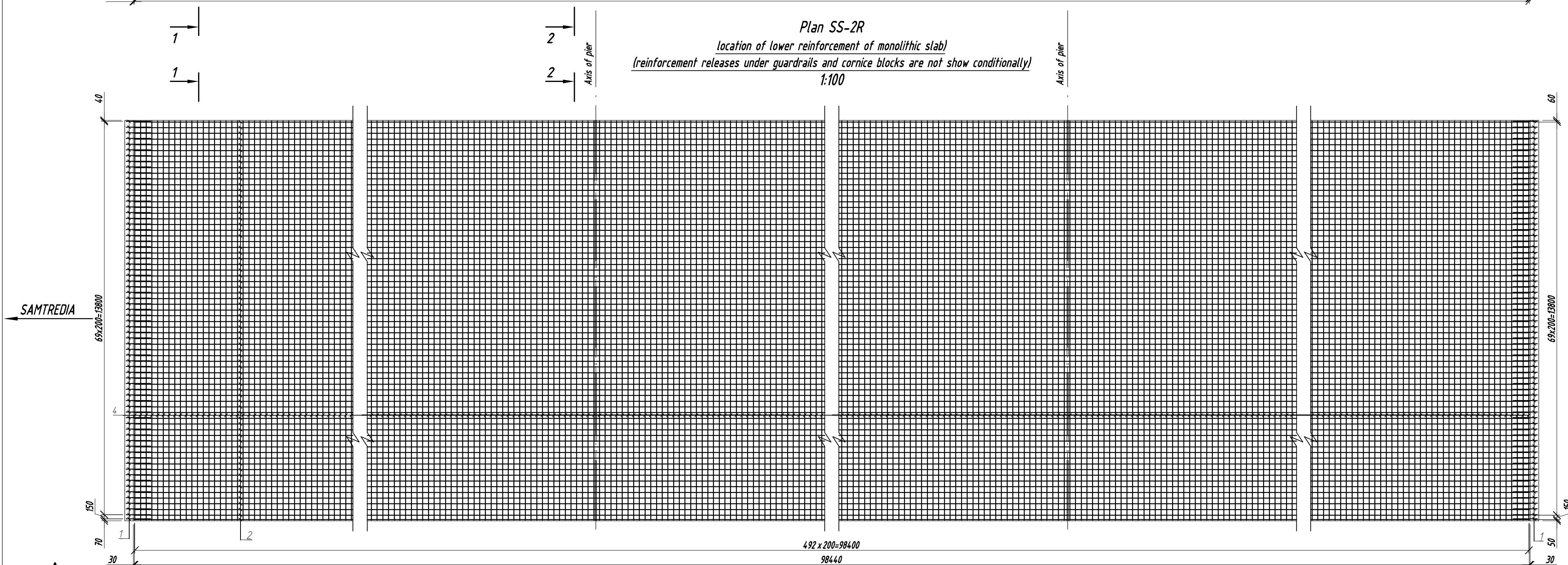


ALT-PK 54-08-125-19-K		Construction of Samtredia - Grigoleti road section of E-60 km 0+000 - km 11+500	
Proj. Manag.	A. Valukin	Stage	Sheet
Checked by	H. Garabinskaya	WD	1
Exec. by	R. Garpaljuk	Sheet	2
Road Building "Altcom" LLC		Mongolian slab SS-1 Reinforcement drawing	

Plan SS-2R
(location of upper reinforcement of monolithic slab)
(reinforcement releases under guardrails and cornice blocks are not show conditionally)
1:100



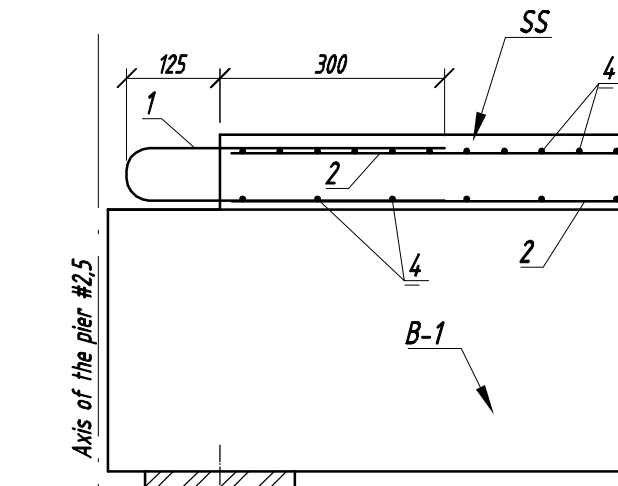
Plan SS-2R
(location of lower reinforcement of monolithic slab)
(reinforcement releases under guardrails and cornice blocks are not show conditionally)
1:100



Register of items

Pos.	Sketch
1	
5	
8	

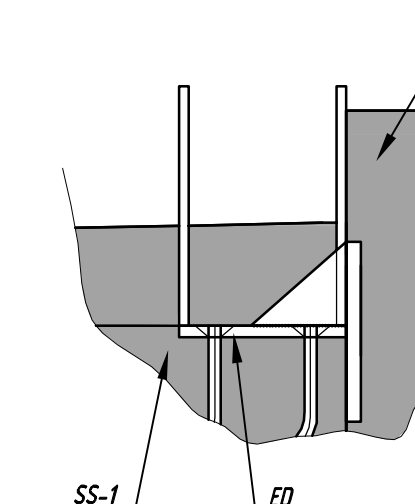
The device rebar for the expansion joint
1:10



Register of steel consumption per element, kg

Mark of element	Reinforcement				Total
	BS 4449:2005 (B500B)				
	Ø8	Ø14	Ø16	Ø20	
SS-2R	1735.58	17801.12	34333.94	1779.26	55649.90

Unit 1



Specification per element, kg

Pos	Name	Quantity	Weight of unit, kg	Weight of all, kg
Prefabricated units				
1	120 B500B BS 4449:2005, L=1500	142	3.90	553.80
2	14 B500B BS 4449:2005, L=103608	142	125.36	17801.12
3	120 B500B BS 4449:2005, L=3500	142	8.63	1225.46
4	16 B500B BS 4449:2005, L=14720	1478	23.23	34333.94
5	18 B500B BS 4449:2005, L=3660	496	1.44	714.24
6	18 B500B BS 4449:2005, L=108073	8	42.7	341.6
7	18 B500B BS 4449:2005, L=108073	5	42.7	213.5
8	18 B500B BS 4449:2005, L=2382	496	0.94	466.24
Other materials				
9	Concrete C 40/50XC-4, XD-3, XF-3, XA-1, S4, D22			298,5m³
10	Concrete C 40/50, XC-4, XD-3, XF-3, XA-1, S4, D22			24,5 m³

1. In the drawing shown slab of superstructure SS-2R. Slab of superstructure SS-2L are symmetrical by this drawing.

2. The length of the rods pos.2 is given in the specification, taking into account the sween overlaps of reinforcement - 45Ø14=630 mm.

3. The length of the rods pos.4 is given in the specification, taking into account the overlap of reinforcement - 45Ø16=720 mm.

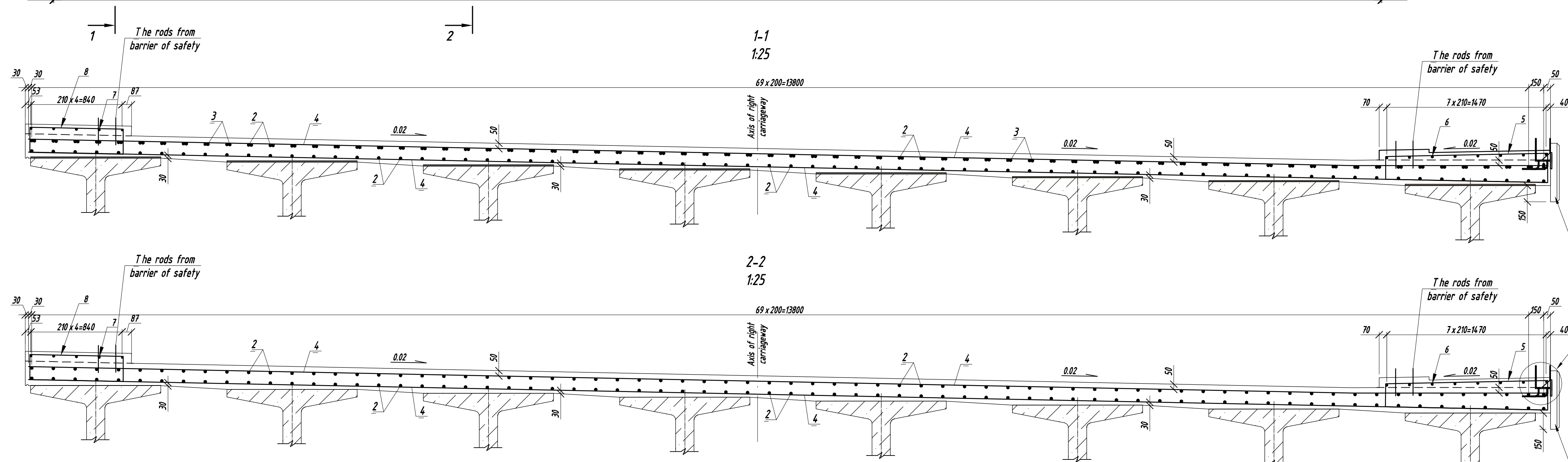
4. The length of the rods pos.6, pos.7 is given in the specification, taking into account the overlap of reinforcement - 45Ø8=360 mm.

5. The blocks of facade install in the design position and fix before concreting of superstructure slab.

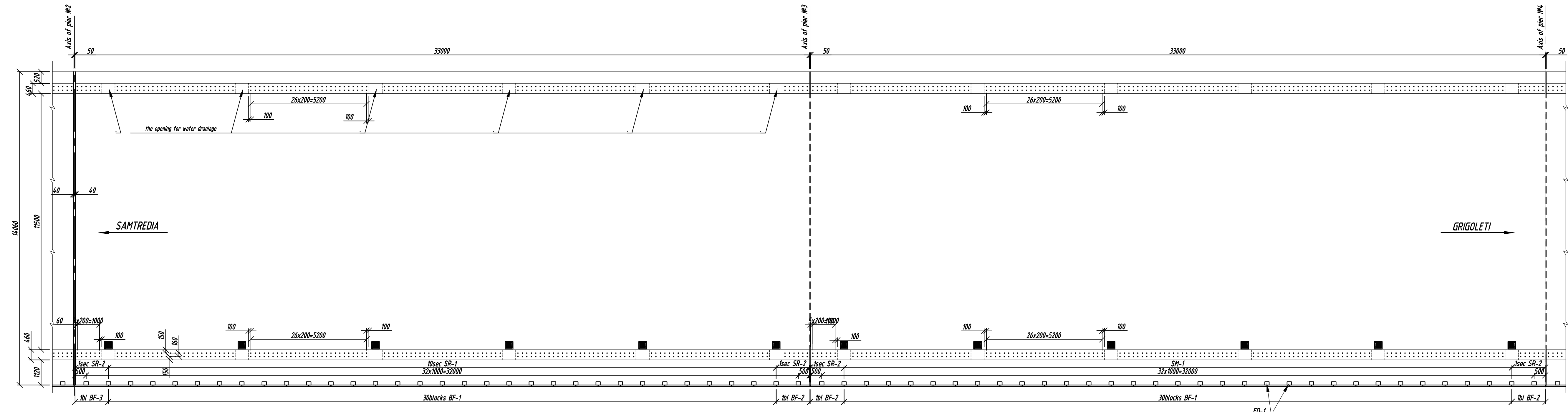
6. Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).

7. Concrete must be corresponds to BS 8500-1 and BS 8500-2 (in accordance with technical specification).

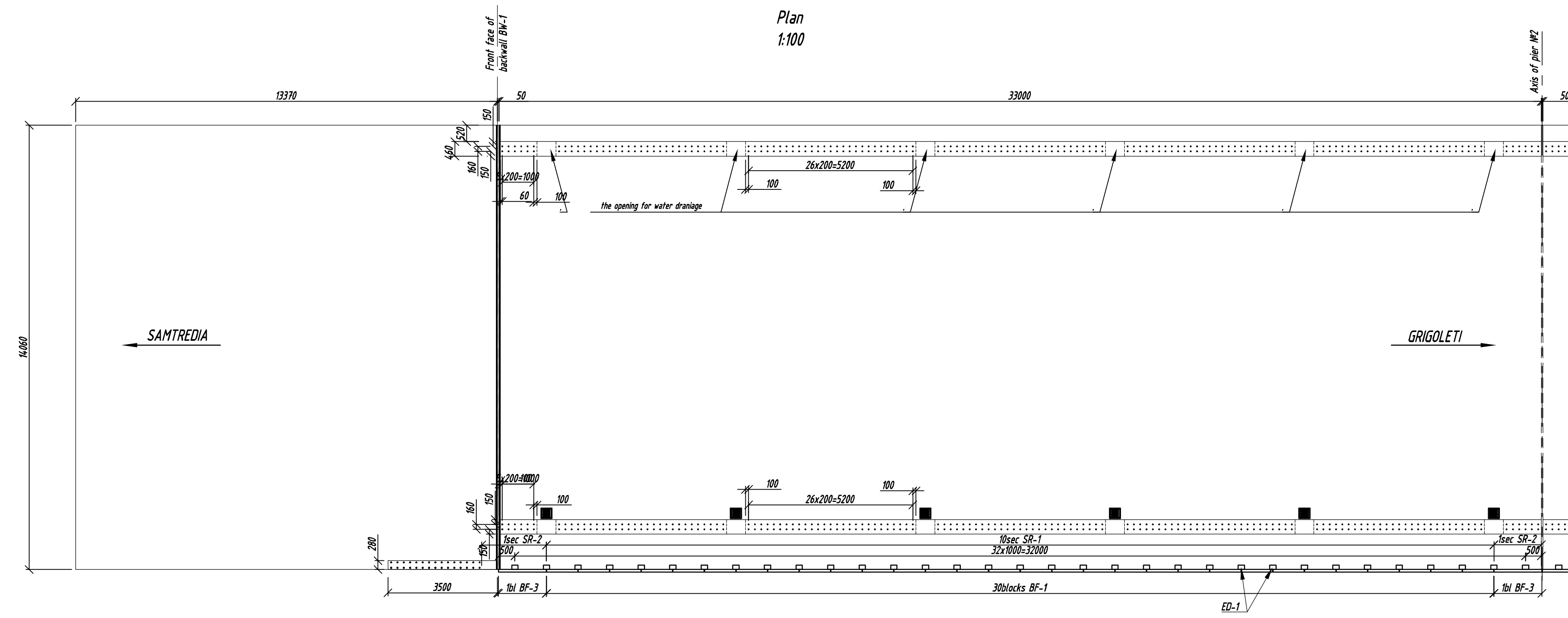
8. Welding points must be corresponds to BS 7123 (in accordance with technical specification).



ALT-PK 54-08-125-19-K		Construction of Samtredia - Grigoleti road section of E-60 km 0+000 - km 11+500	
Proj. Manag.	A. Valukin	Stage	WD
Checked by	H. Garabinskaya	Sheet	2
Exec. by	R. Garpaljuk	Sheets	2
Monolithic slab SS-2 Reinforcement drawing		"Road Building "Altcom" LLC	



Plan
1:100



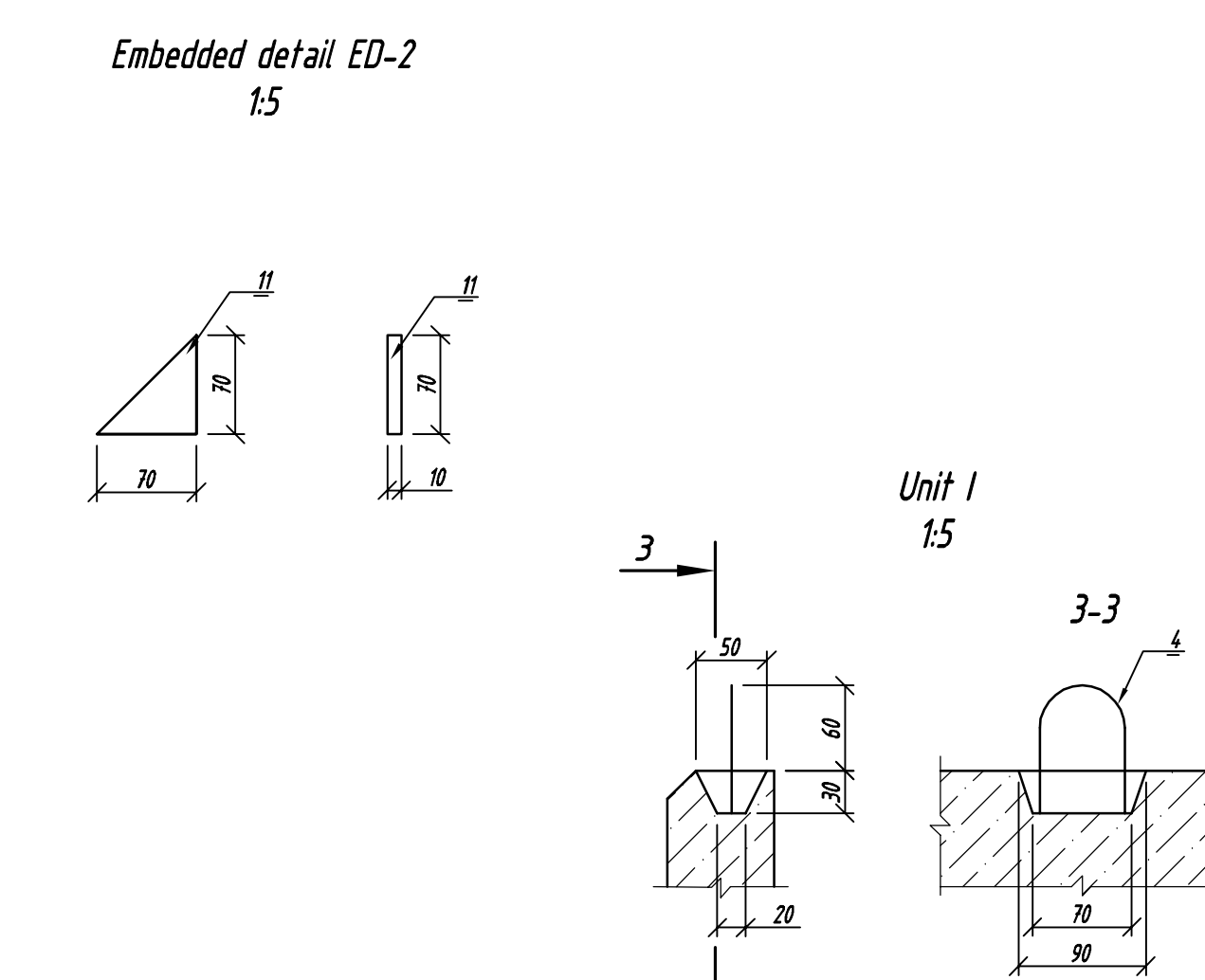
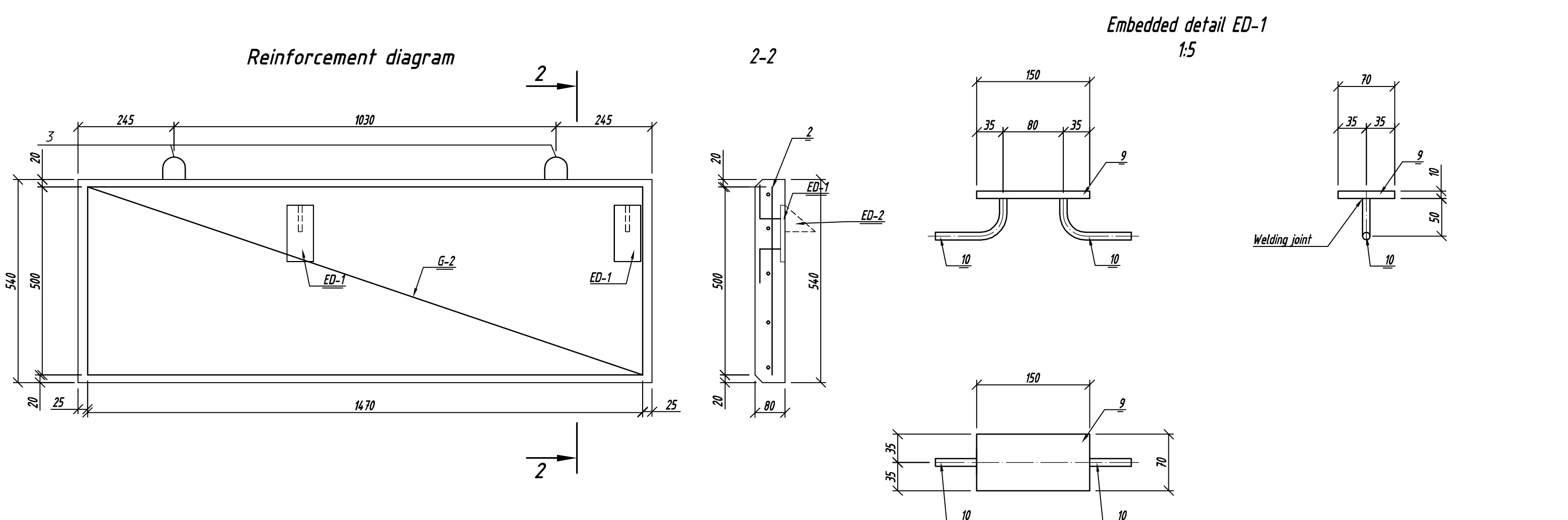
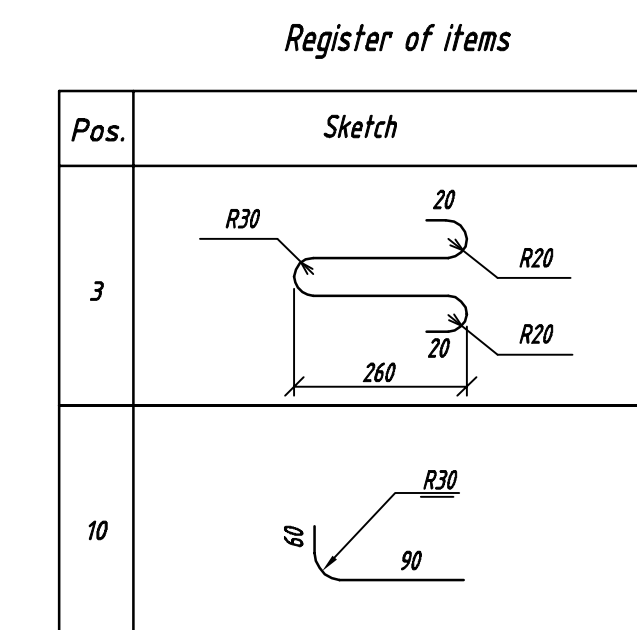
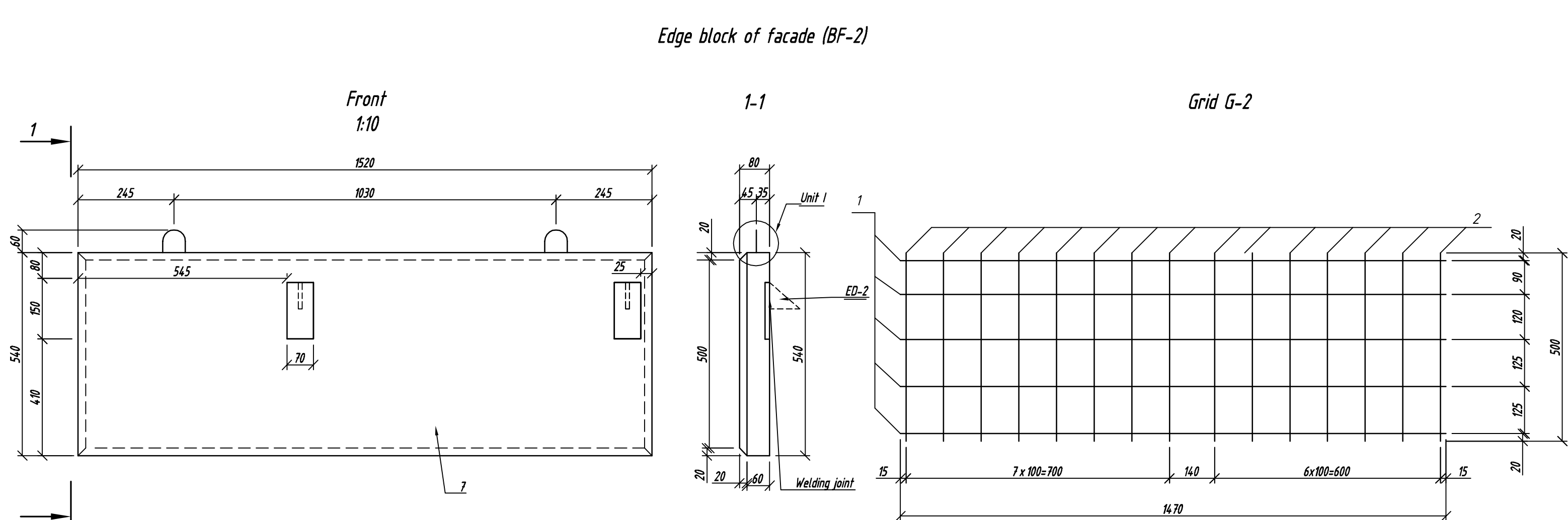
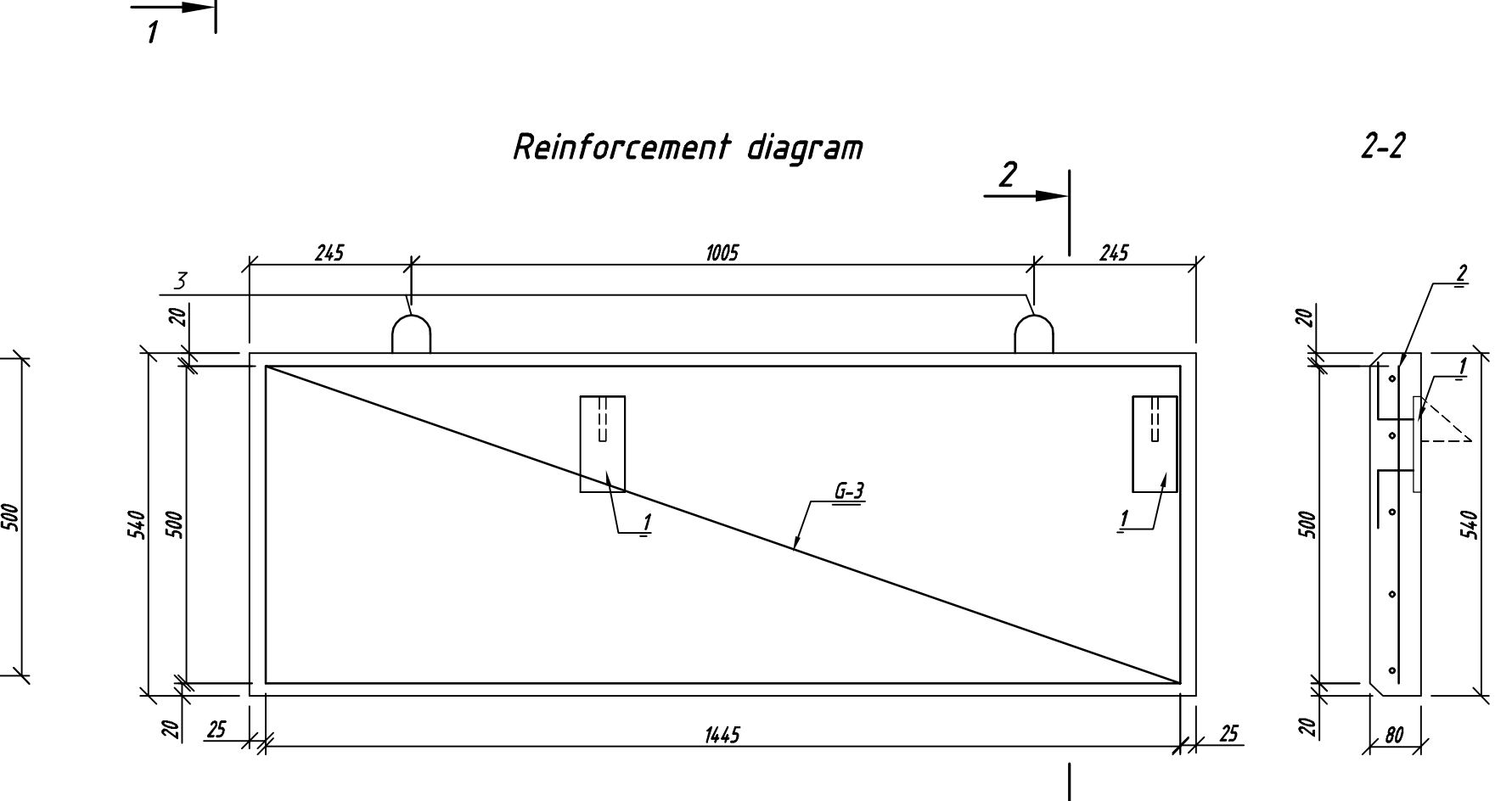
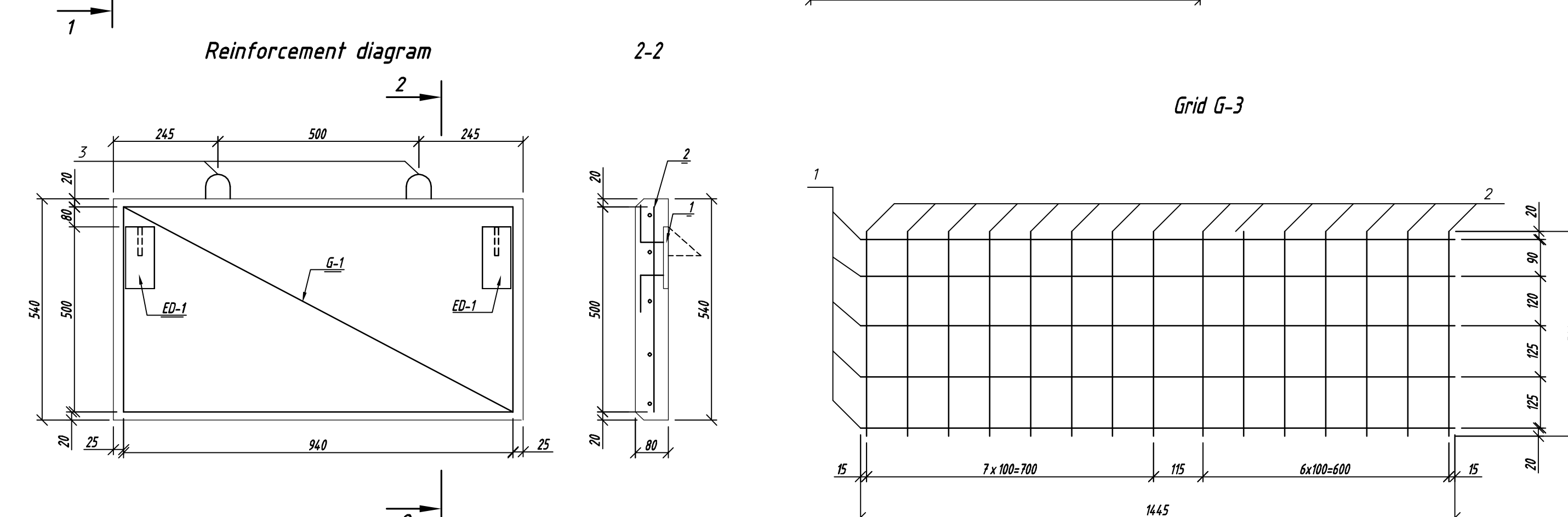
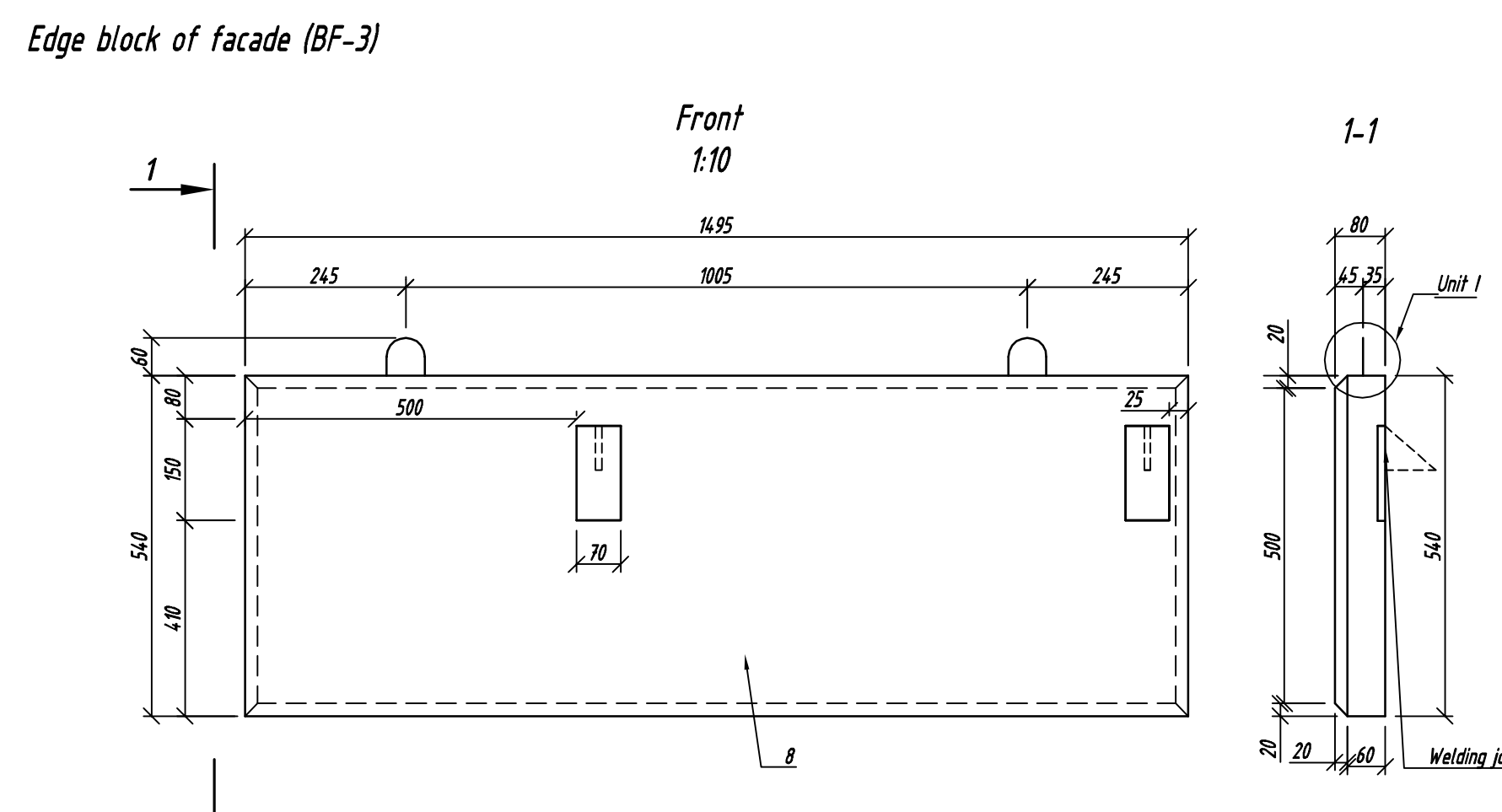
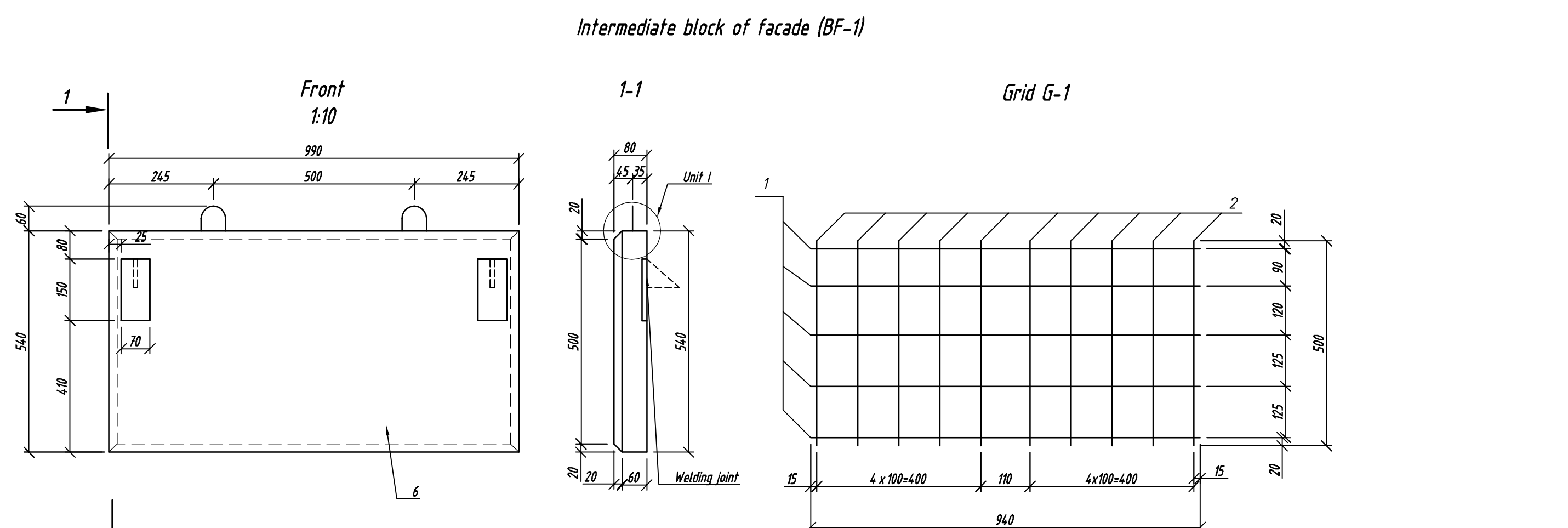
ALT-PK 54+08-125-19-K		Construction of Samtredia - Grigoleti road section of E-60 km 0+000 - km 11+500		
RE	R.Harlander	Stage	Sheet	Sheets
Proj.Manag.	A. Valukin	WD	1	1
Checked by	H.Garabinskaya	Scheme of location of connecting elements		
Exec. by	R.Garpolyuk	"Road Building "Altcom" LLC		



Mark of element	Reinforcement			Embedded items					Total	
	BS 4449:2005 (B500B)		Total	EN 10025-2:2006		BS 4449:2005 (B500B)		Total		
	Ø8	Ø10		-10x150x70	-10x70x70	Ø10	Total			
BF-1	0.54	6.00	6.53	1.66	0.19	1.85	0.36	0.36	2.21	8.74
BF-2	0.54	9.25	9.79	1.66	0.19	1.85	0.36	0.36	2.21	12.00
BF-3	0.54	9.10	9.64	1.66	0.19	1.85	0.36	0.36	2.21	21.30

Specification of elements, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
BF-1	Intermediate block of facade			
G-1	Grid G-1	1	6.00	6.00
1	10 B500B BS 4449:2005, L=940	5	0.58	2.90
2	10 B500B BS 4449:2005, L=500	10	0.31	3.10
	Details	2	0.27	0.54
3	10 B500B BS 4449:2005, L=680	1	0.27	0.27
ED-1	Embedded details ED-1	2	1.01	2.02
9	-10x150x70 EN 10025-2:2006	1	0.83	0.83
10	10 B500B BS 4449:2005, L=140	2	0.09	0.18
ED-2	Embedded details ED-2	2	0.19	0.38
11	-10x70x70 EN 10025-2:2006	1	0.19	0.19
	Other materials			
6	Concrete C 30/37, XC-4, XD-3, XF-3, XA-1, S4, D22			0.043 m³
BF-2	Edge block of facade			
G-2	Grid G-2	1	9.25	9.25
4	10 B500B BS 4449:2005, L=1470	5	0.92	4.60
2	10 B500B BS 4449:2005, L=500	15	0.31	4.65
	Details	2	0.27	0.54
3	10 B500B BS 4449:2005, L=680	1	0.27	0.27
ED-1	Embedded details ED-1	2	1.01	2.02
9	-10x150x70 EN 10025-2:2006	1	0.83	0.83
10	10 B500B BS 4449:2005, L=140	2	0.09	0.18
ED-2	Embedded details ED-2	2	0.19	0.38
11	-10x70x70 EN 10025-2:2006	1	0.19	0.19
	Other materials			
7	Concrete C 30/37, XC-4, XD-3, XF-3, XA-1, S4, D22			0.067 m³
BF-3	Edge block of facade			
G-3	Grid G-3	1	9.10	9.10
5	10 B500B BS 4449:2005, L=1445	5	0.89	4.45
2	10 B500B BS 4449:2005, L=500	15	0.31	4.65
	Details	2	0.27	0.54
3	10 B500B BS 4449:2005, L=680	1	0.27	0.27
ED-1	Embedded details ED-1	2	1.01	2.02
9	-10x150x70 EN 10025-2:2006	1	0.83	0.83
10	10 B500B BS 4449:2005, L=140	2	0.09	0.18
ED-2	Embedded details ED-2	2	0.19	0.38
11	-10x70x70 EN 10025-2:2006	1	0.19	0.19
	Other materials			
8	Concrete C 30/37, XC-4, XD-3, XF-3, XA-1, S4, D22			0.065 m³

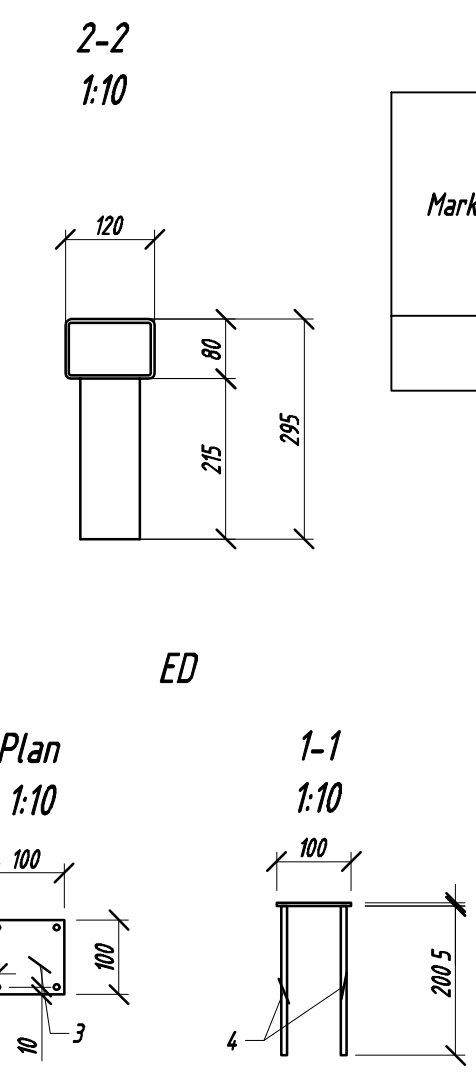
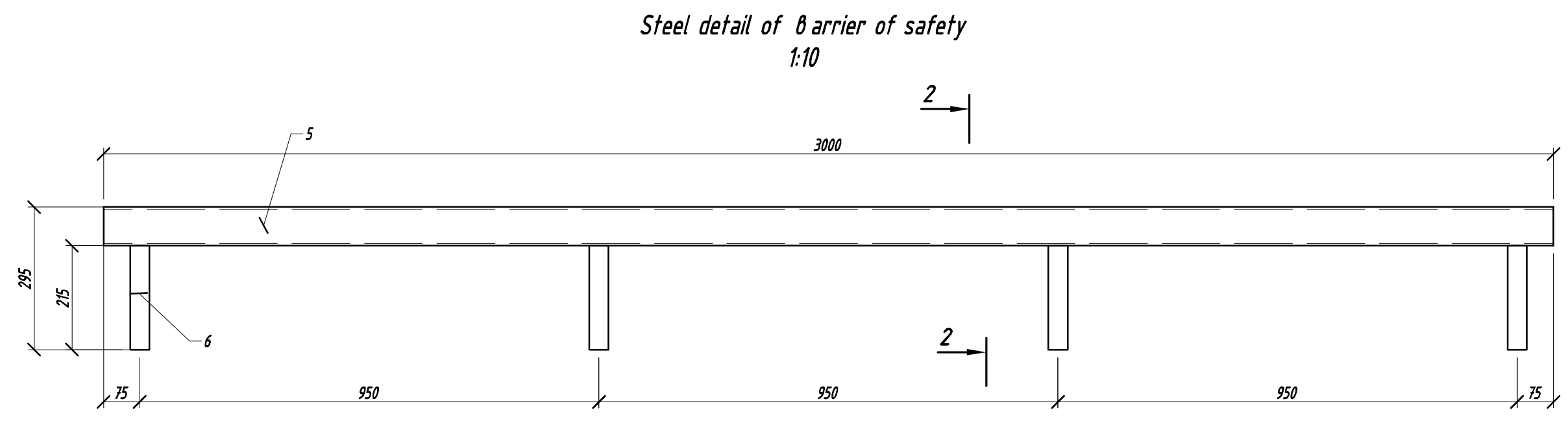
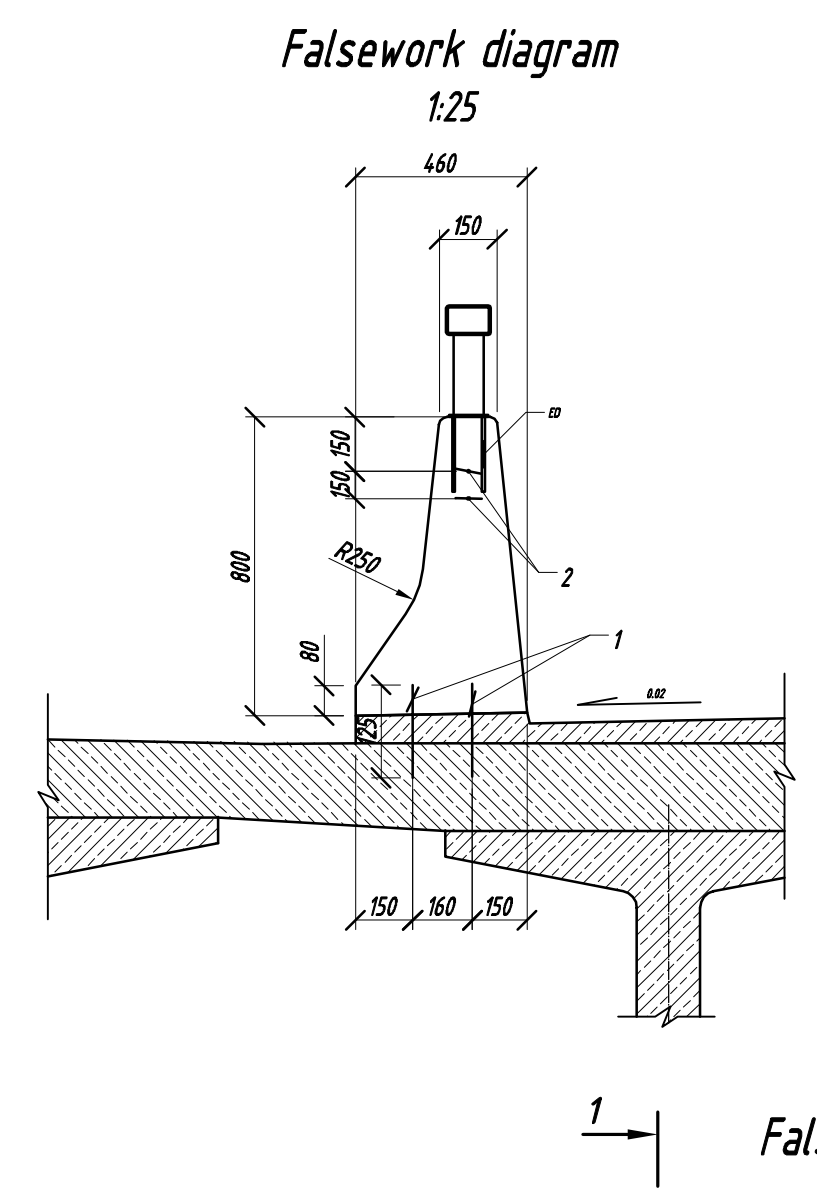


- ED-2 install and weld to the ED-1 and embedded detail of steel railing both sides of the cathetus.
- Block of facade BF-2 and BF-3 have a mirror image by that blocks.
- Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).
- Concrete must be corresponds to BS 8500-1 and BS 8500-2 (in accordance with technical specification).
- Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

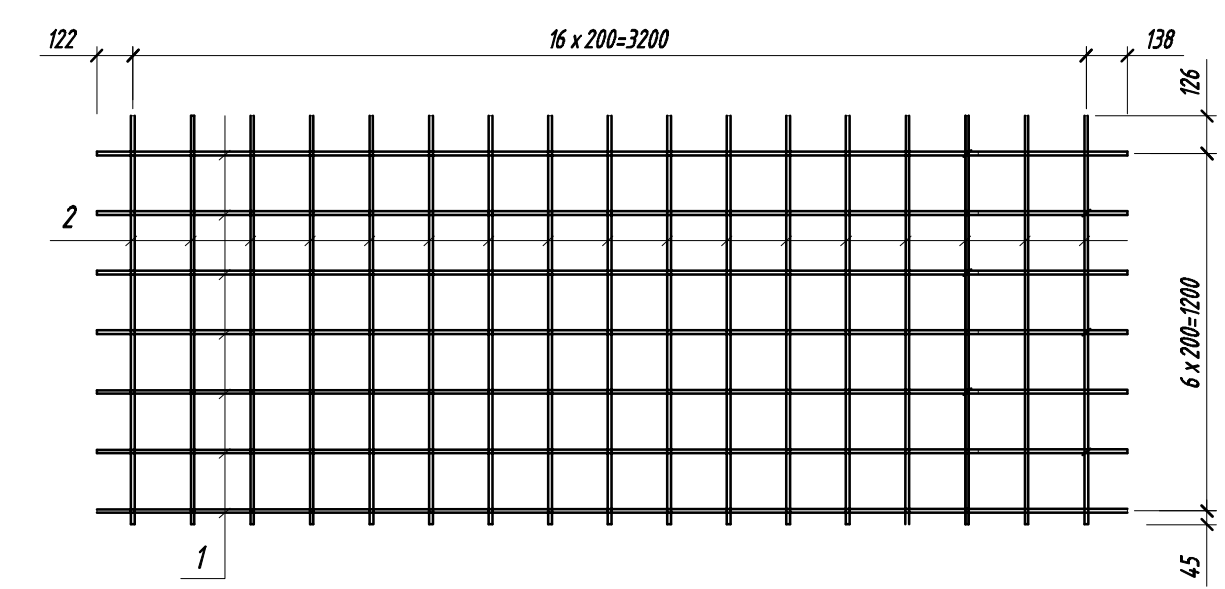
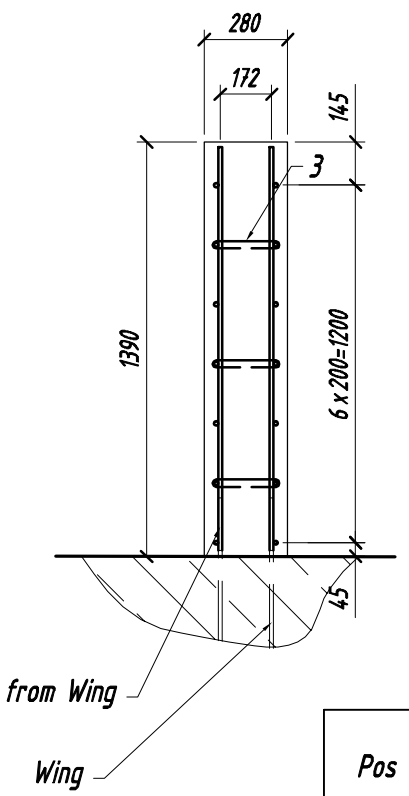
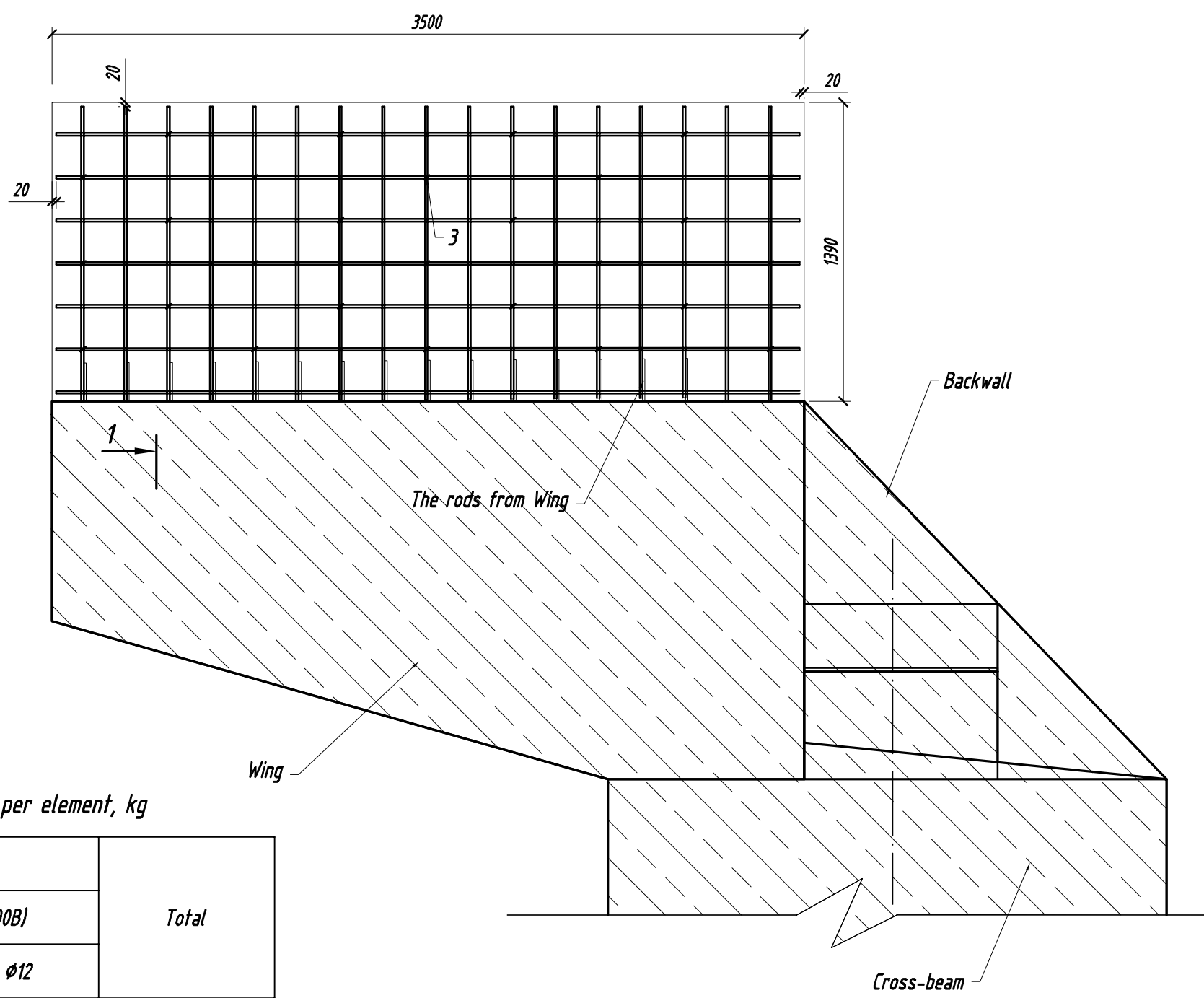
ALT-PK 54-08-125-20		Construction of Samreda - Griqoleti road section of E-60 km 0 +000 - km 11 +500	
Proj. Manager	A. Valukin	Stage	Sheet
Checked by	H. Garabinskaya	WD	1
Exec. by	R. Garpaljuk	Carnice block	
		"Road Building "Altcom" LLC	



Barrier of safety



Cast in situ parapets on wings



Register of steel consumption per element, kg

Mark of element	Reinforcement		Total
	BS 4449:2005 (B500B)		
P	ø8	ø12	
	4.05	90.26	94.31

Specification per element, kg

Pos	Name	Quantity	Weight of unit, kg	Weight of all, kg
<u>Prefabricated units</u>				
Grid G-1				
1	12 B500B BS 4449:2005, L=3460	8	3,07	24,56
2	12 B500B BS 4449:2005, L=1370	17	1,21	20,57
<u>Details</u>				
3	18 B500B BS 4449:2005, L=384	27	0,15	4,05
<u>Other materials</u>				
	Concrete C30/37, XC-2, XD-3, XF-3, XA-1, S4, D22			1,4 m ³

Register of steel consumption per section barrier of safety L=3m, kg

Mark of element	Reinforcement			Class of metal products			Total
	BS 4449:2005 (B500B)			BS EN 10025-2:2004			
	ø10	ø8	ø16	120x80x5	80 x 40 x 3	100 x 100 x 5	
BS	4.50	1.28	9.48	43.75	4.52	1.60	65.13

Specification of per section L=3m, kg

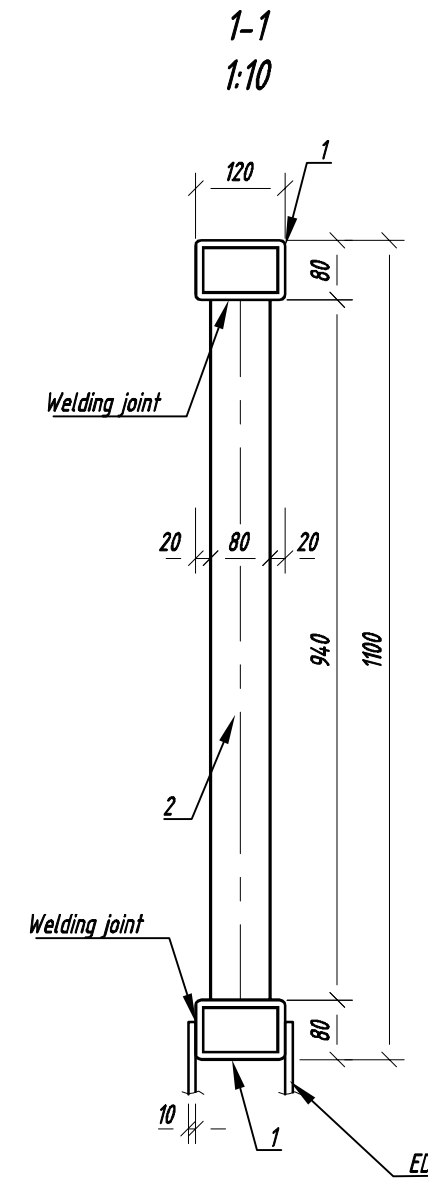
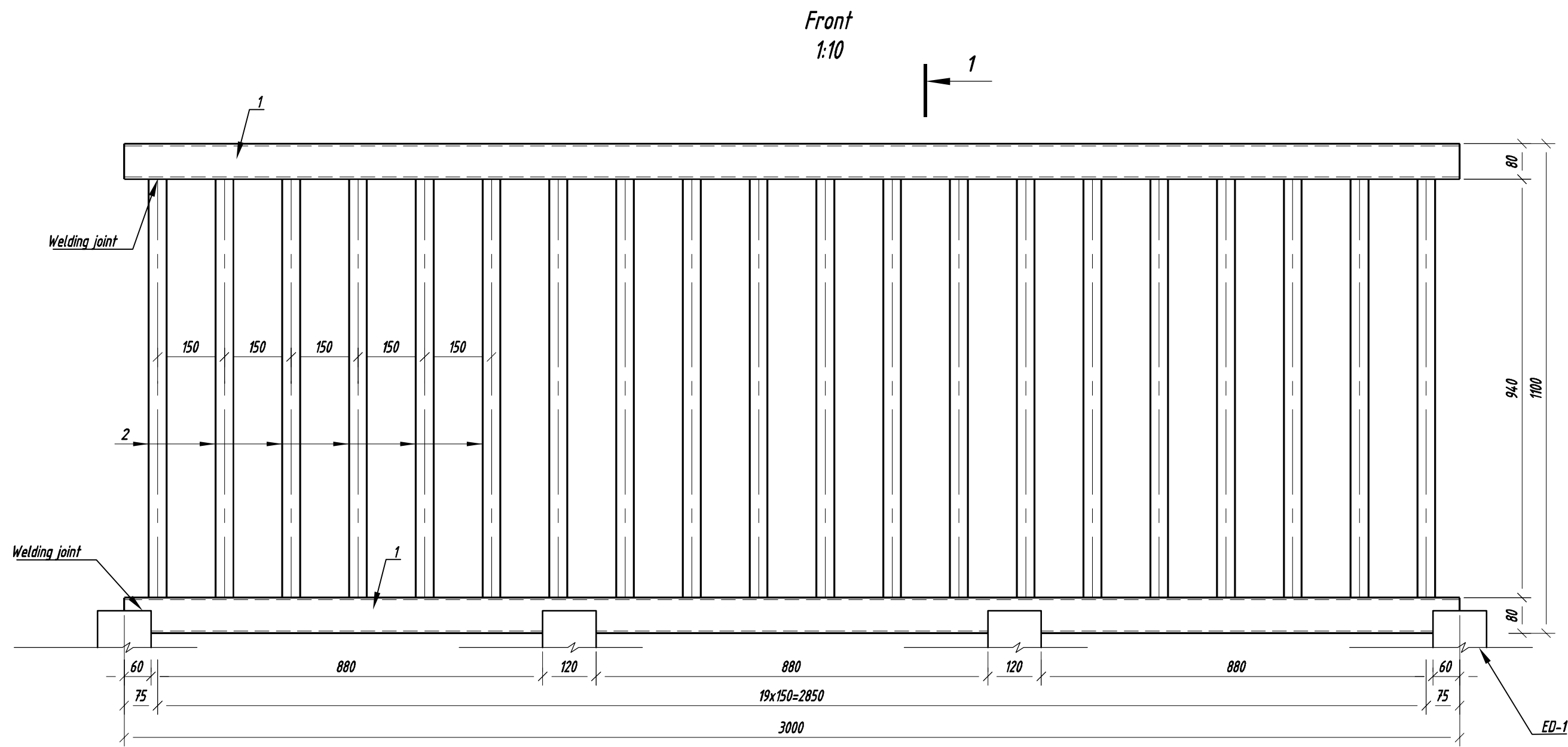
Pos	Name	Quantity	Weight of unit, kg	Weight of all, kg
<u>Barrier of safety</u>				
1	110 B500B BS 4449:2005, L=250	30	0.15	4.5
2	116 B500B BS 4449:2005, L=3000	2	4.74	9.48
<u>Other materials</u>				
	Concrete			0.65m ³
<u>Embedded details</u>				
3	100 x 100 x 5	4	0.4	1.6
4	18 B500B BS 4449:2005, L=200	16	0.08	1.28
<u>Steel detail of barrier of safety</u>				
5	120 x 80 x 5 BS EN 10025-2:2004, L=3000	1	43.75	43.75
6	80 x 40 x 3 BS EN 10025-2:2004, L=215	4	1.13	4.52
<u>Other materials</u>				
9	Concrete C 20/25 XC-4, XD-3, XF-3, XA-1, S4, D22			0,223m ³

1. Reinforcement must be corresponds to BS 4449 and BS 4483 accordance with technical specification). (in
2. Concrete must be corresponds to BS 8500-1 and BS 8500-2 accordance with technical specification). (in
3. Welding points must be corresponds to BS 7123 with technical specification). (in accordance

ALT-PK 54+08-125-21-K				Construction of Samtredia - Grigoleli road section of E-60 km 0+000 - km 11+500		
Project Manager	A. Valukin	Checked by	H. Garabinskaya	Exec. by	R. Garabiyuk	
Parapets on wings and barrier of safety				Stage	Sheet	Sheets
				WD	1	1
"Road Building "Altcom" LLC						

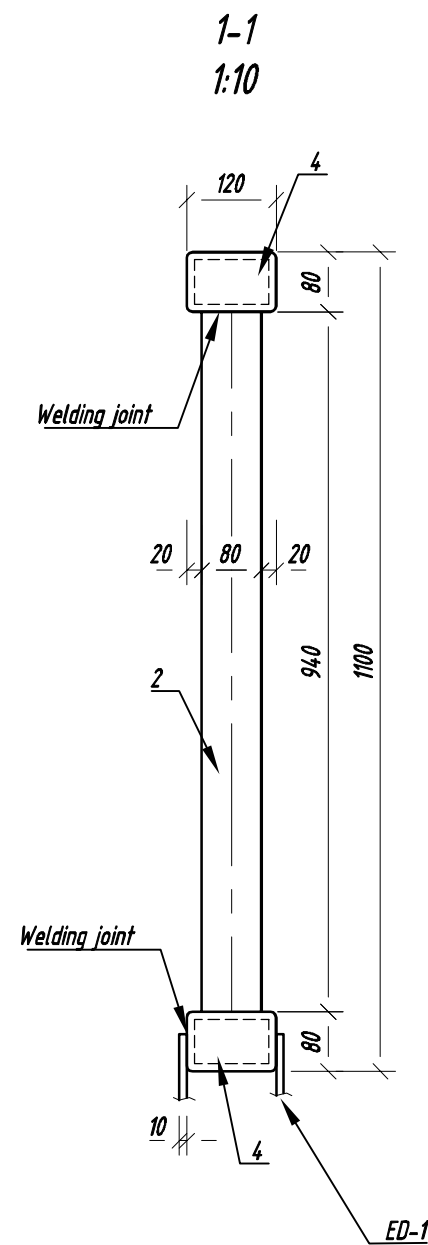
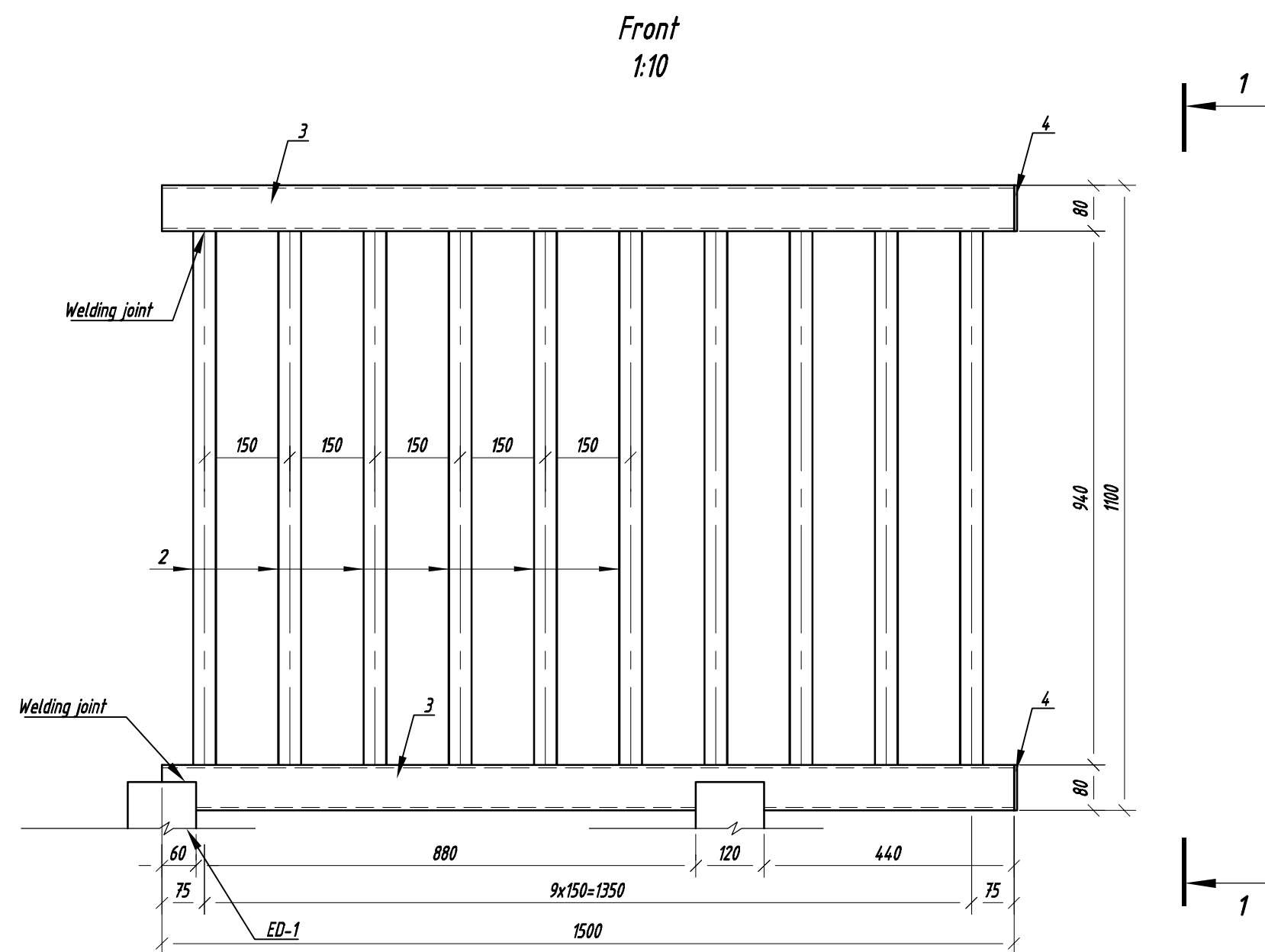


Intermediate section of steel railing (SR-1)



1. Steel railing have the individual design.
2. Metal products must be corresponds to EN 10025-2:2004 (in accordance with technical specification).
3. Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).
4. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

Edge section of steel railing (SR-2)



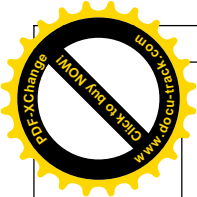
Register of steel consumption per section of steel railings, kg

Mark of element	Class of metal products			Total
	BS EN 10025-2:2004			
	120x80x5	80x40x3	5x120x80	
SR-1	88.92	100.40		189.32
SR-2	44.46	50.20	0.76	95.42

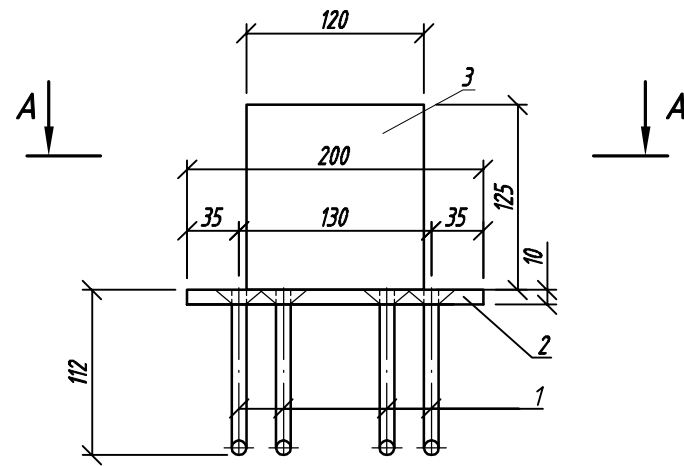
Specification of steel railings sections, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<u>Prefabricated units</u>				
SR-1	Intermediate section of steel railing L= 3,0 m	1	189.32	189.32
1	Pipe 120x80x5, EN 10025-2:2004, L=3000	2	44.46	88.92
2	Pipe 80x40x3, EN 10025-2:2004, L=940	20	5.02	100.40
SR-2	Edge section of steel railing L= 1.5 m	1	95.42	95.42
3	Pipe 120x80x5, EN 10025-2:2004, L=1500	2	22.23	44.46
2	Pipe 80x40x3, EN 10025-2:2004, L=940	10	5.02	50.20
4	-5x120x80 EN 10025-2:2004	2	0.38	0.76

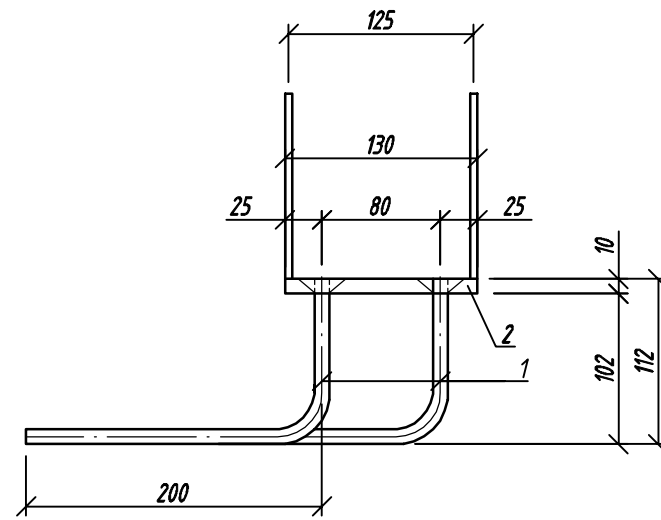
ALT-PK 54+08-125-22		Construction of Samtredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500		
Proj. Manag.	A. Vatuikin	Stage	Sheet	Sheets
Checked by	H. Gorobinskaya	WD	1	1
Exec. by	R. Garpalyuk	Steel railings.		
ALTCOM Road Building		"Road Building "Altcom" LLC		



Facade
Scale 1:5



B-B
Scale 1:5



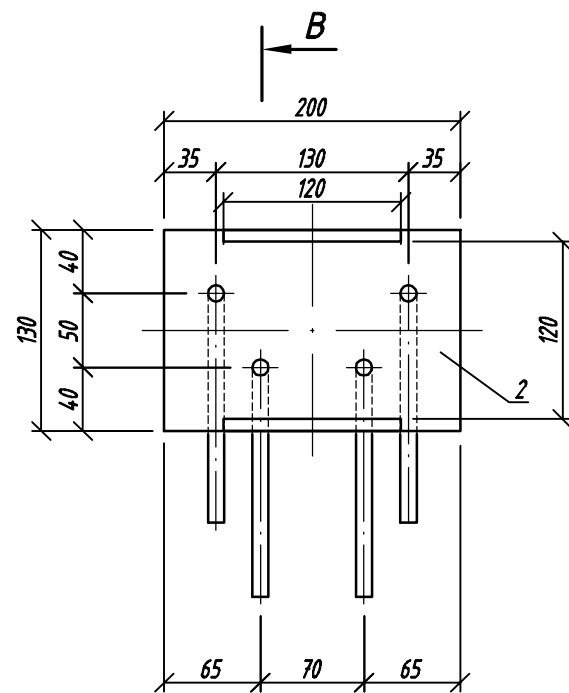
Register of steel consumption per element, kg

Mark of element	Embedded products						Total
	Reinforcement		EN 10025-2:2006		EN 10025-2:2006		
	BS 4449:2005		-10	Total	-5	Total	
ED	0,8	0,8	2,0	2,0	1,2	1,2	4,0

Specification of element, kg

Pos.	Designation	Name	Quantity	Weight of unit, kg	Remark
ED-1		Embedded products ED			
1		10 B500B BS 4449:2005, L=315	4	0,2	
2		-10 x 130 EN 10025-2:2006, L=200	1	2,0	
3		-5 x 120 EN 10025-2:2006, L=125	2	0,6	

A-A

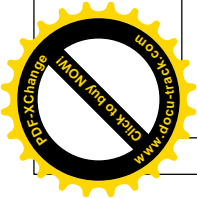


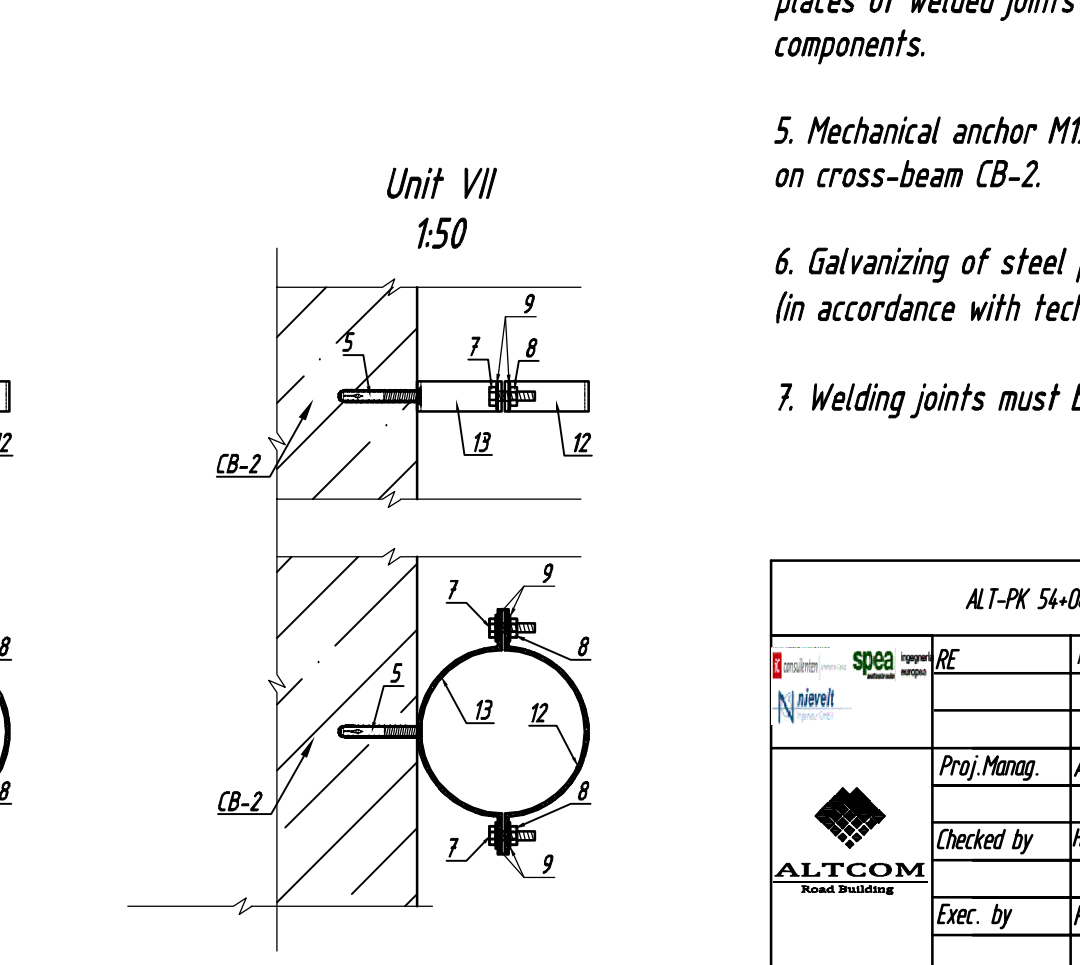
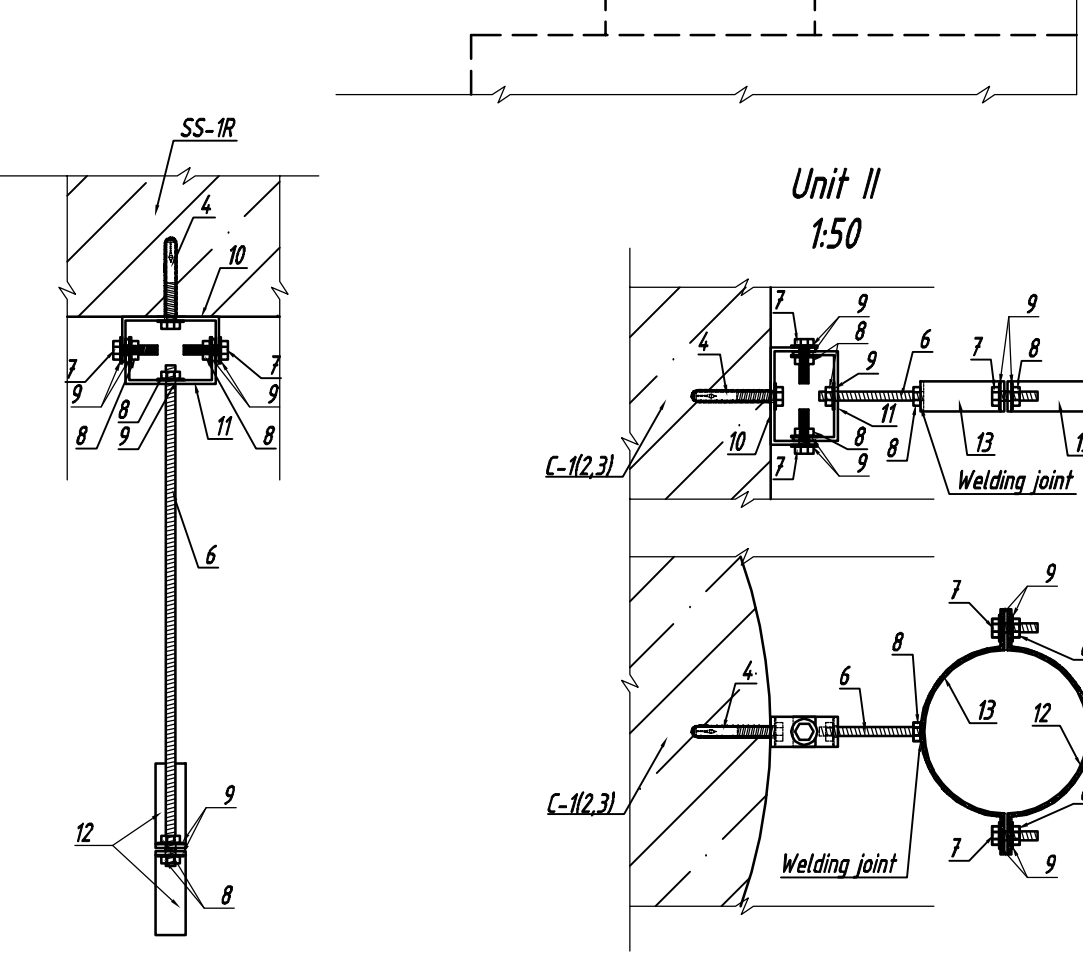
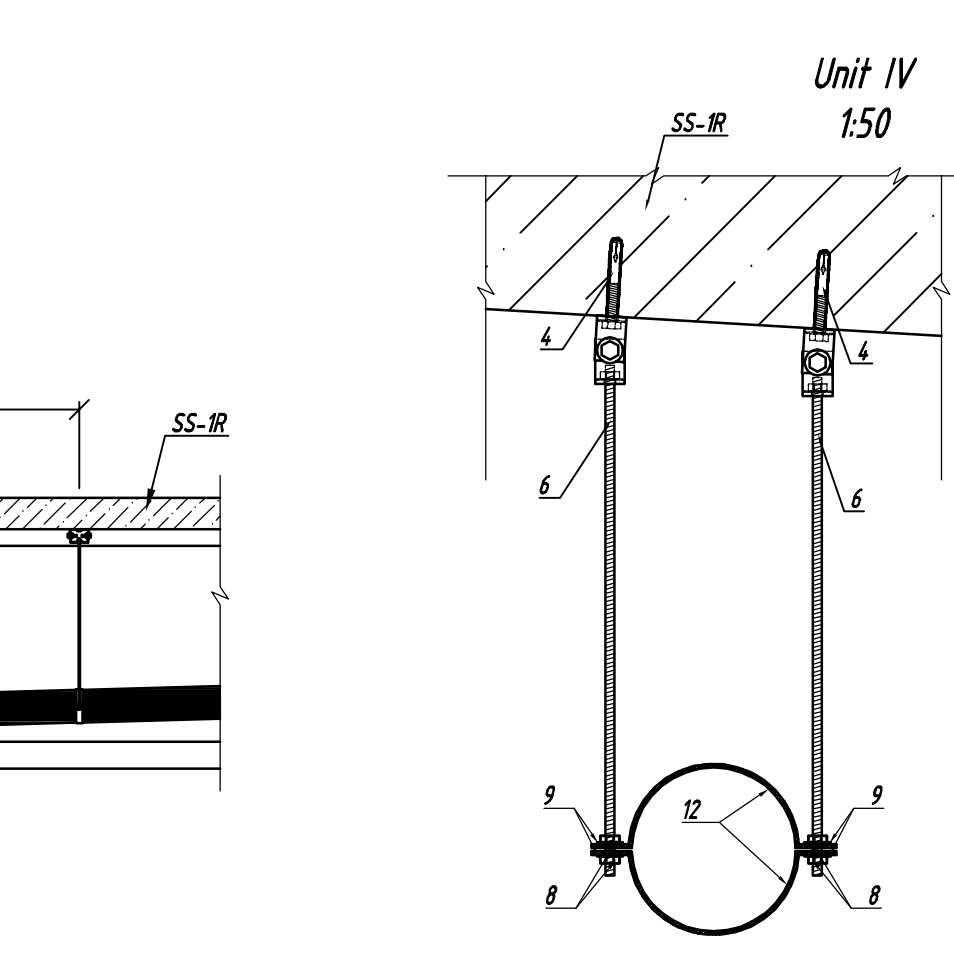
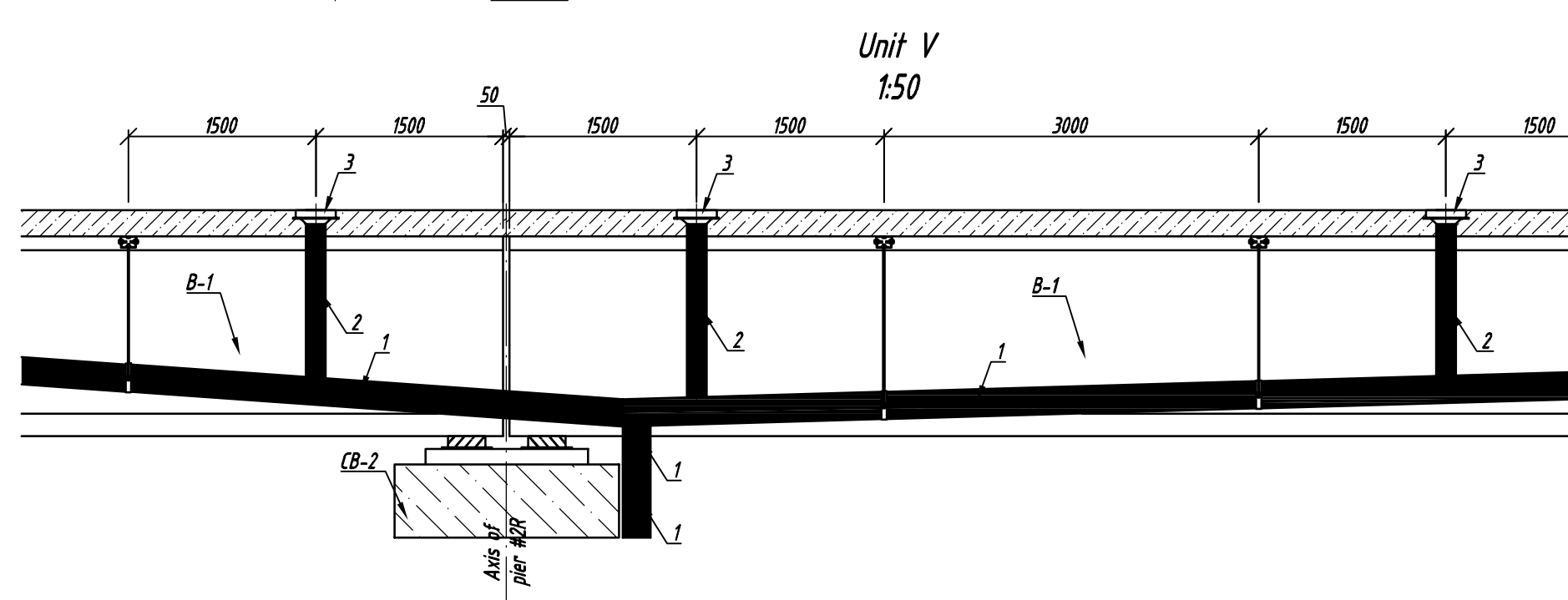
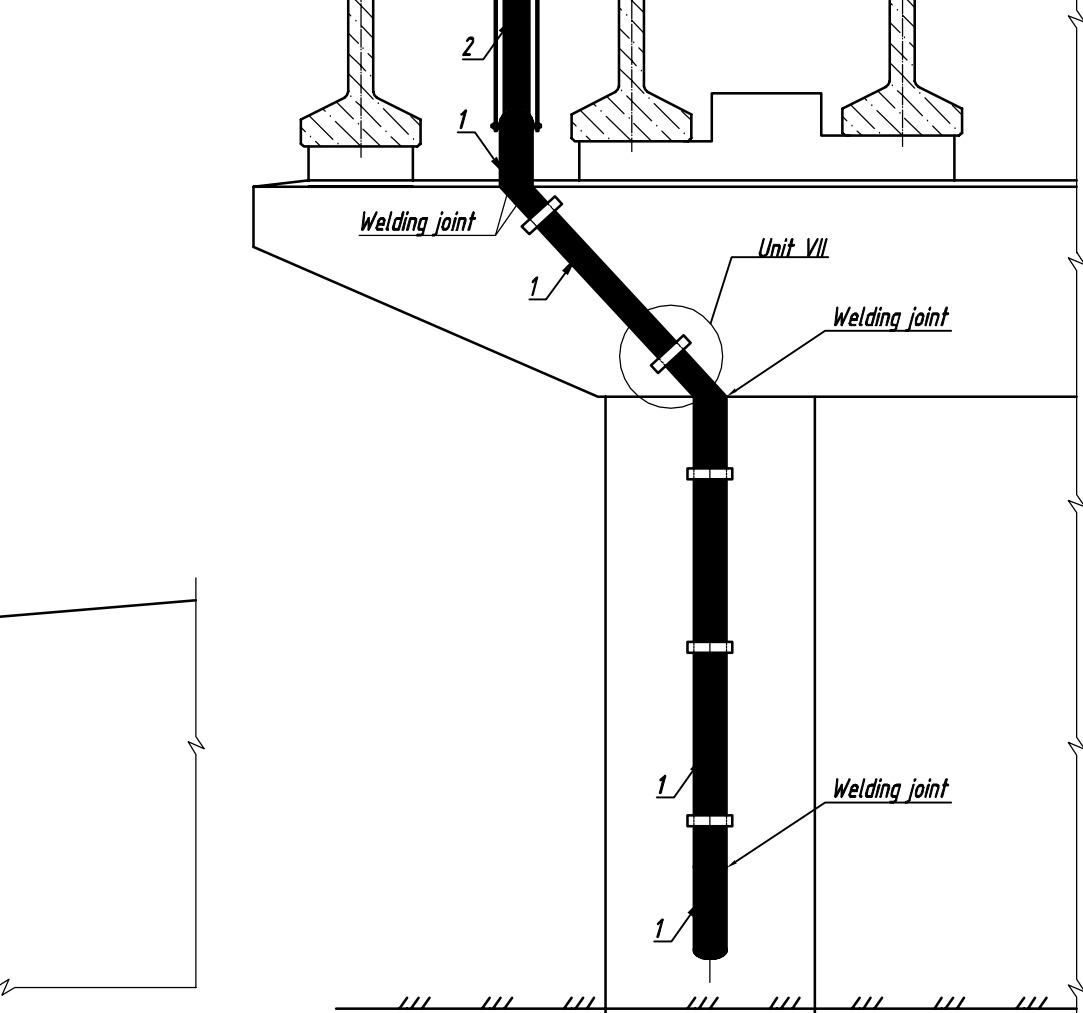
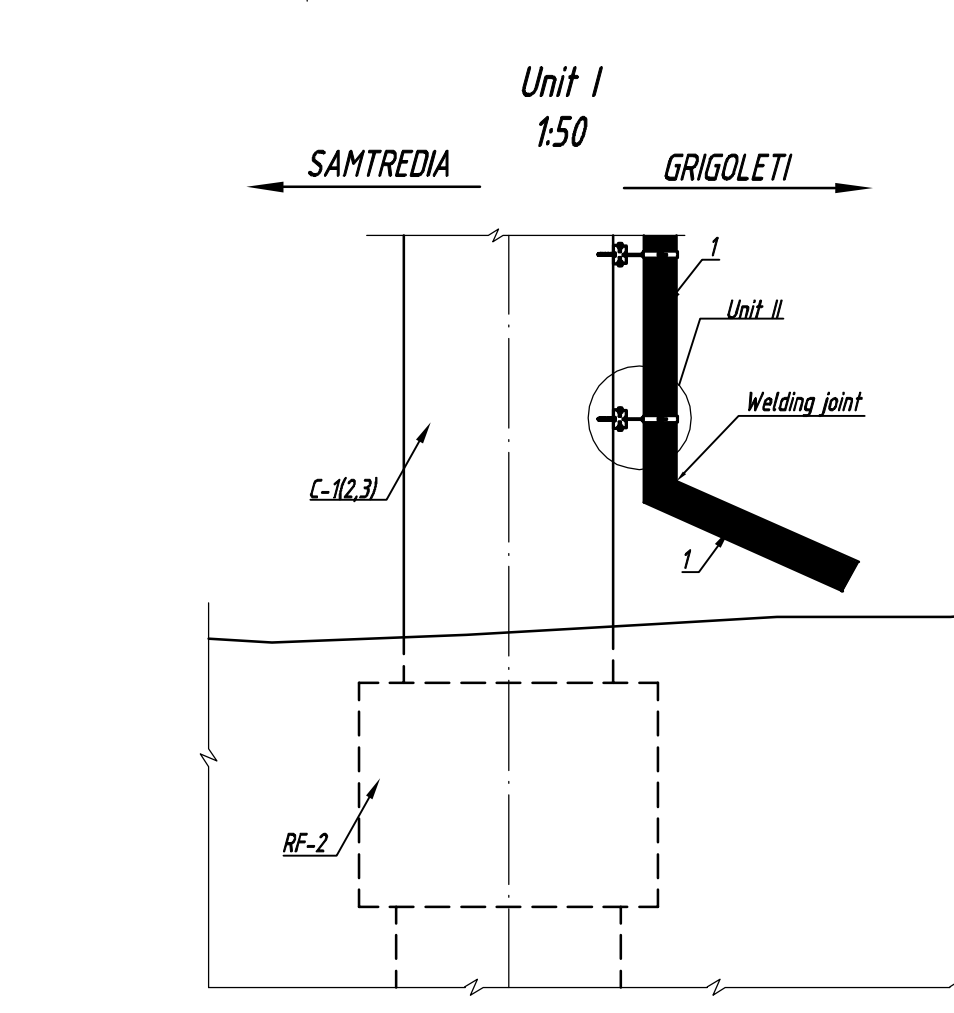
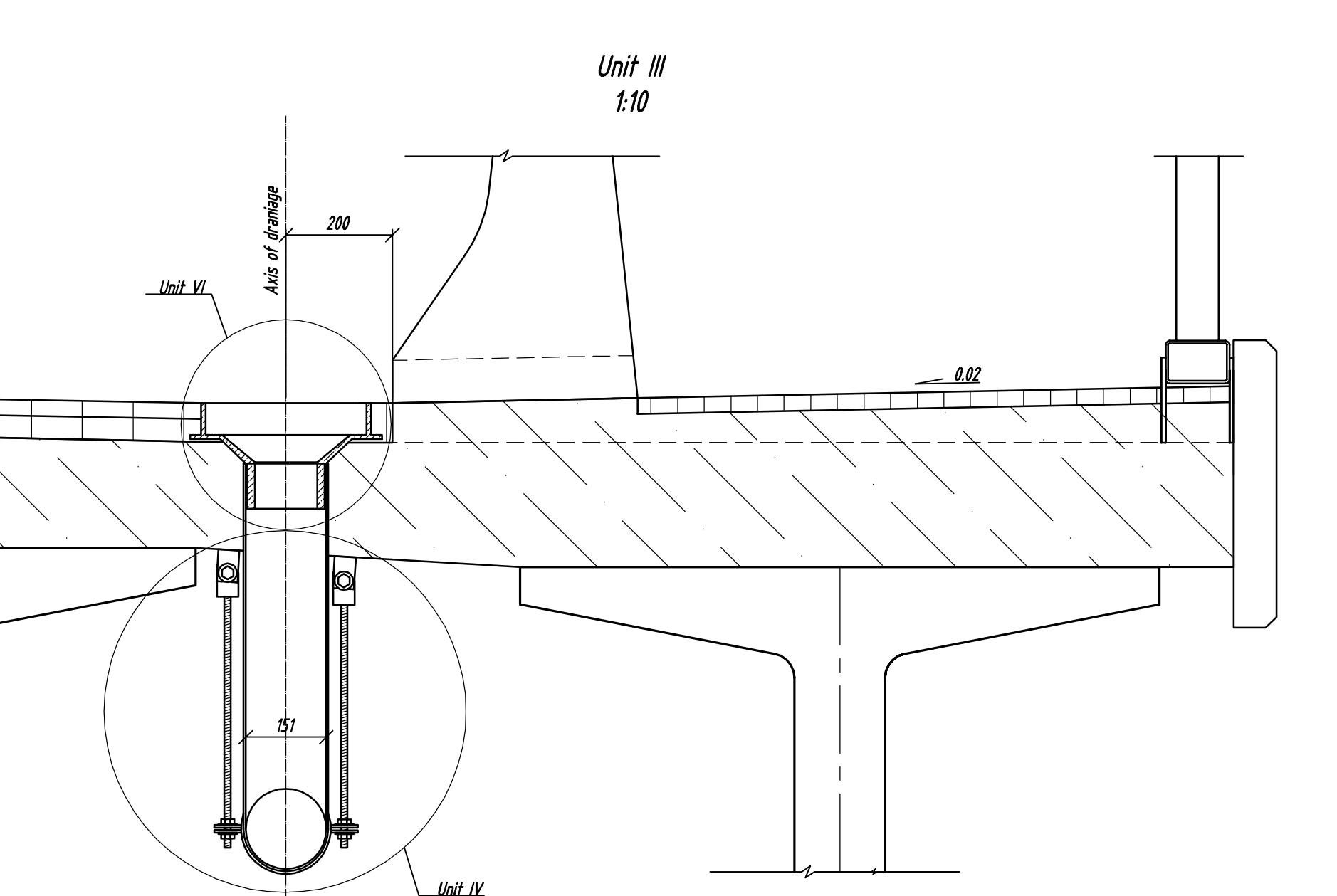
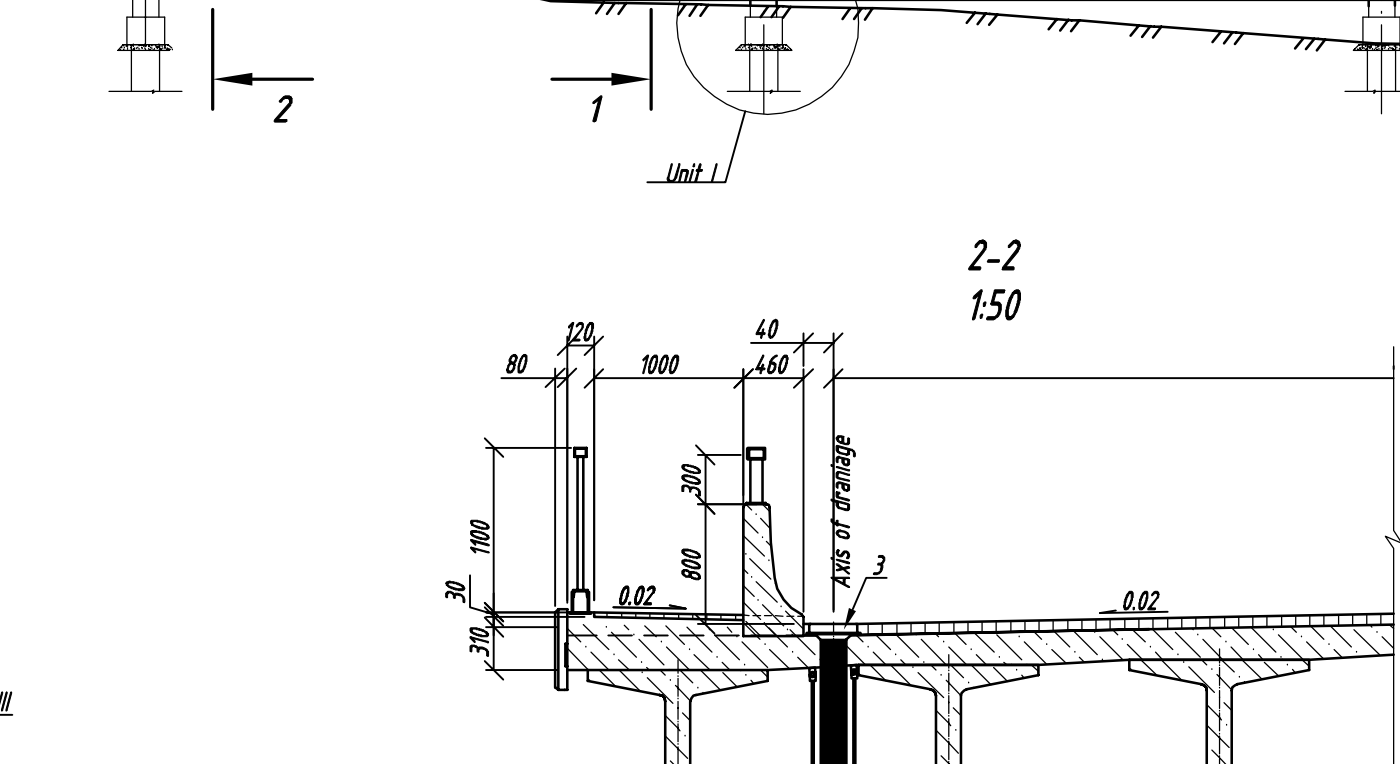
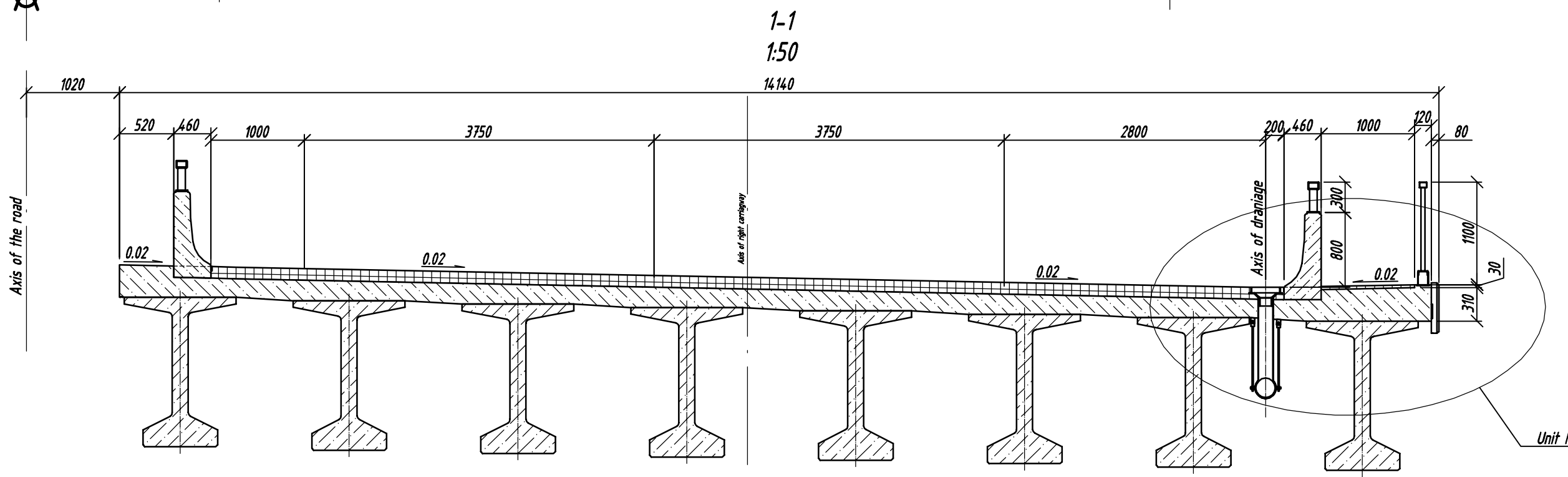
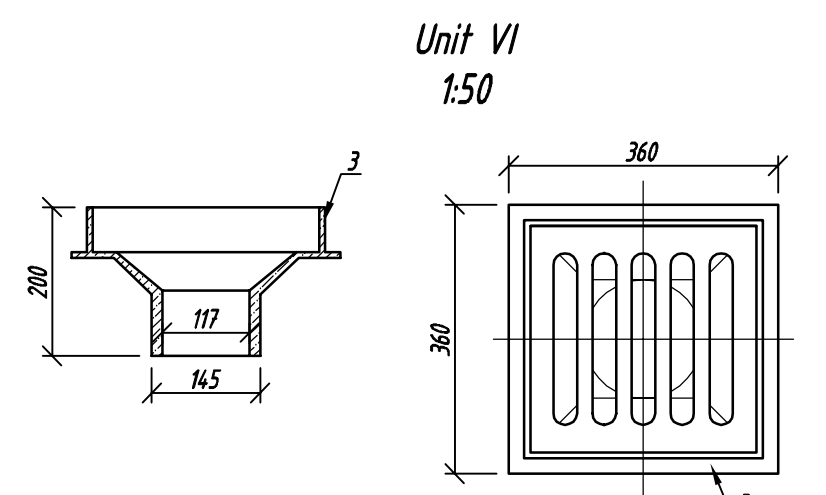
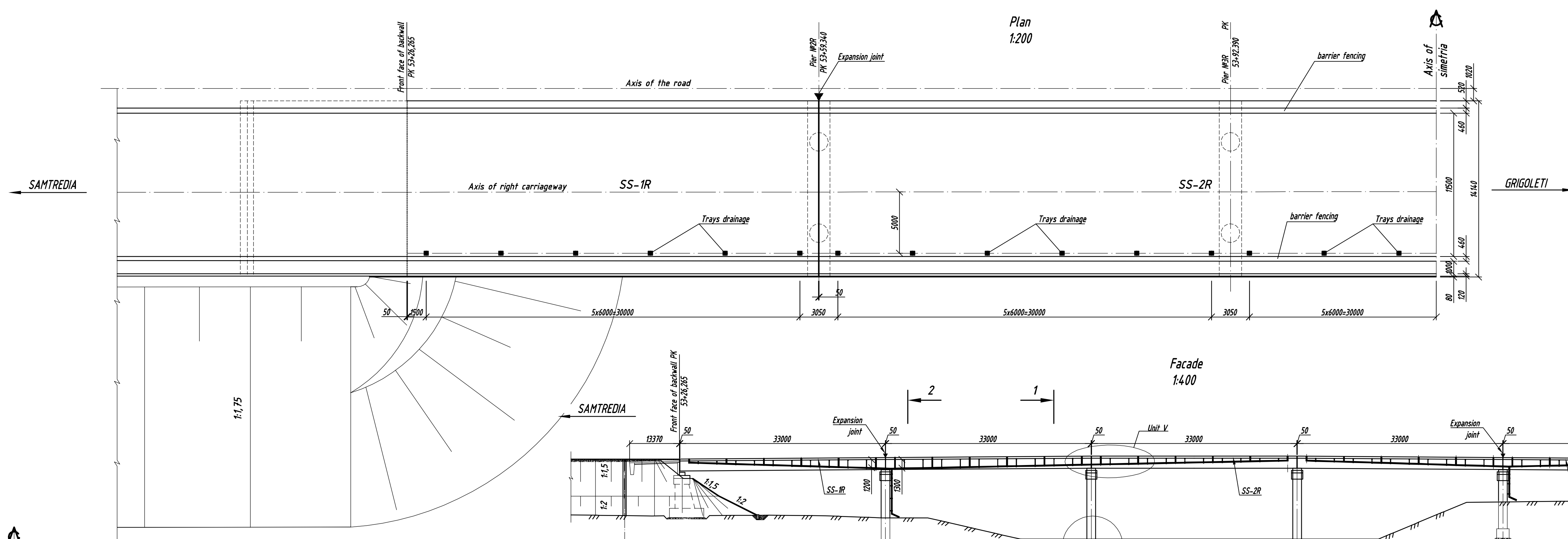
Register of items

Pos.	Sketch
1	

1. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

ALT-PK 54+08-125-23				Construction of Samtredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500			
	RE	R.Harlander		Overpass PK 54+08	Stage	Sheet	Sheets
	Proj.Manag.	A. Valuikin			WD	1	1
	Checked by	H.Garabinskaya		Embedded details ED	 "Road Building "Altcom" LLC		
	Exec. by	R.Garpolyuk					





Register of items

Pos.	Sketch
10	
11	
12	
13	

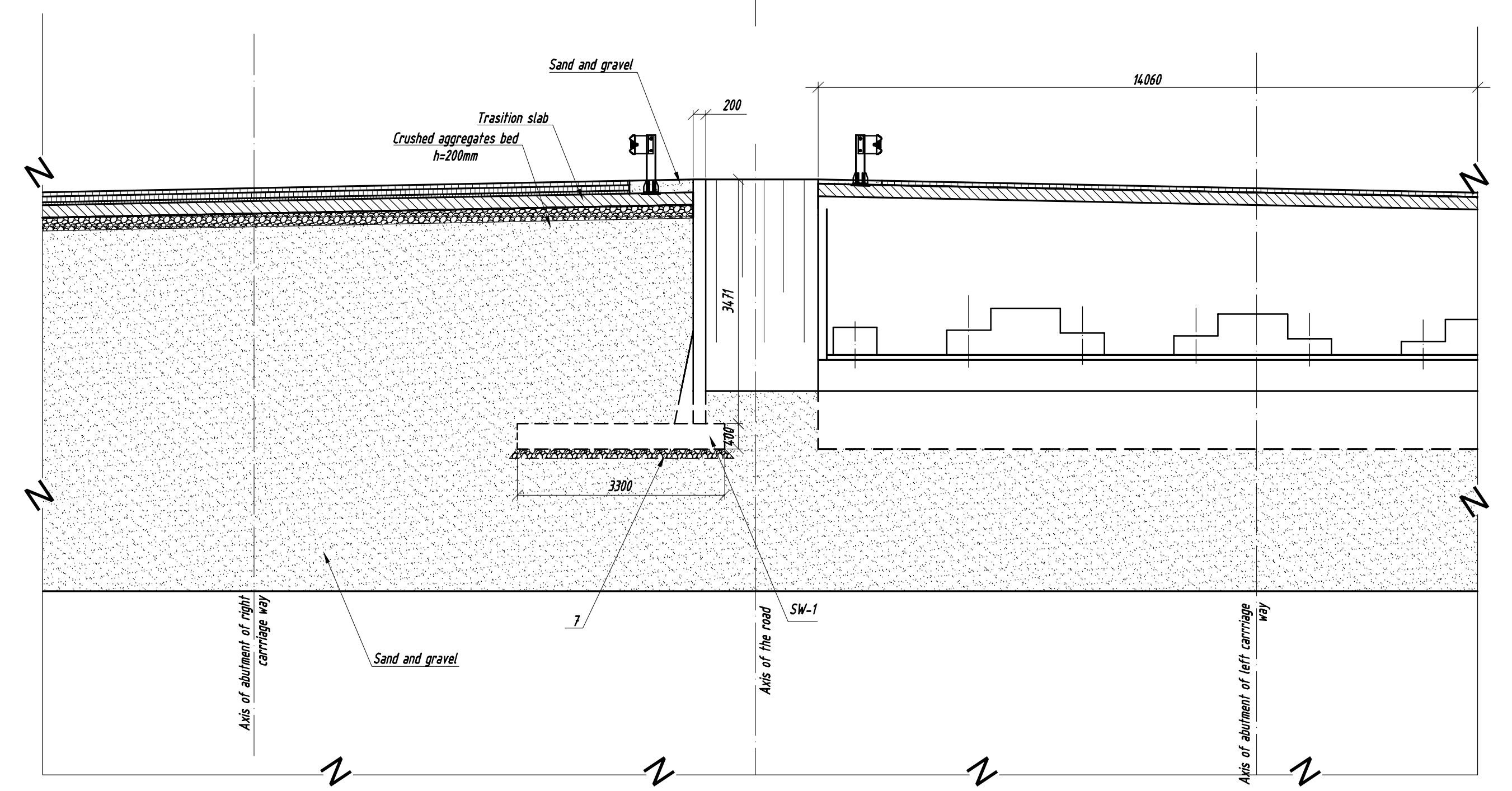
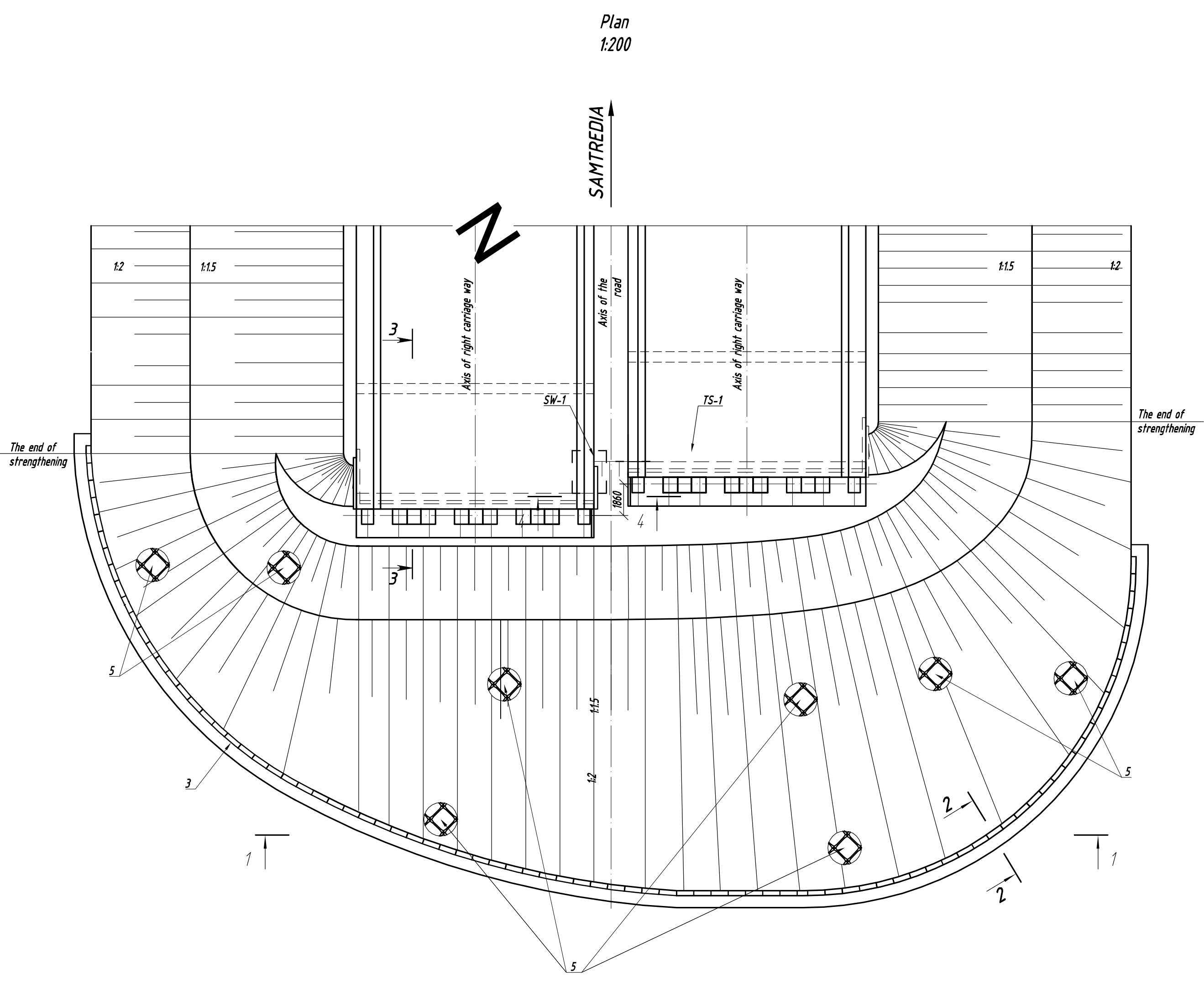
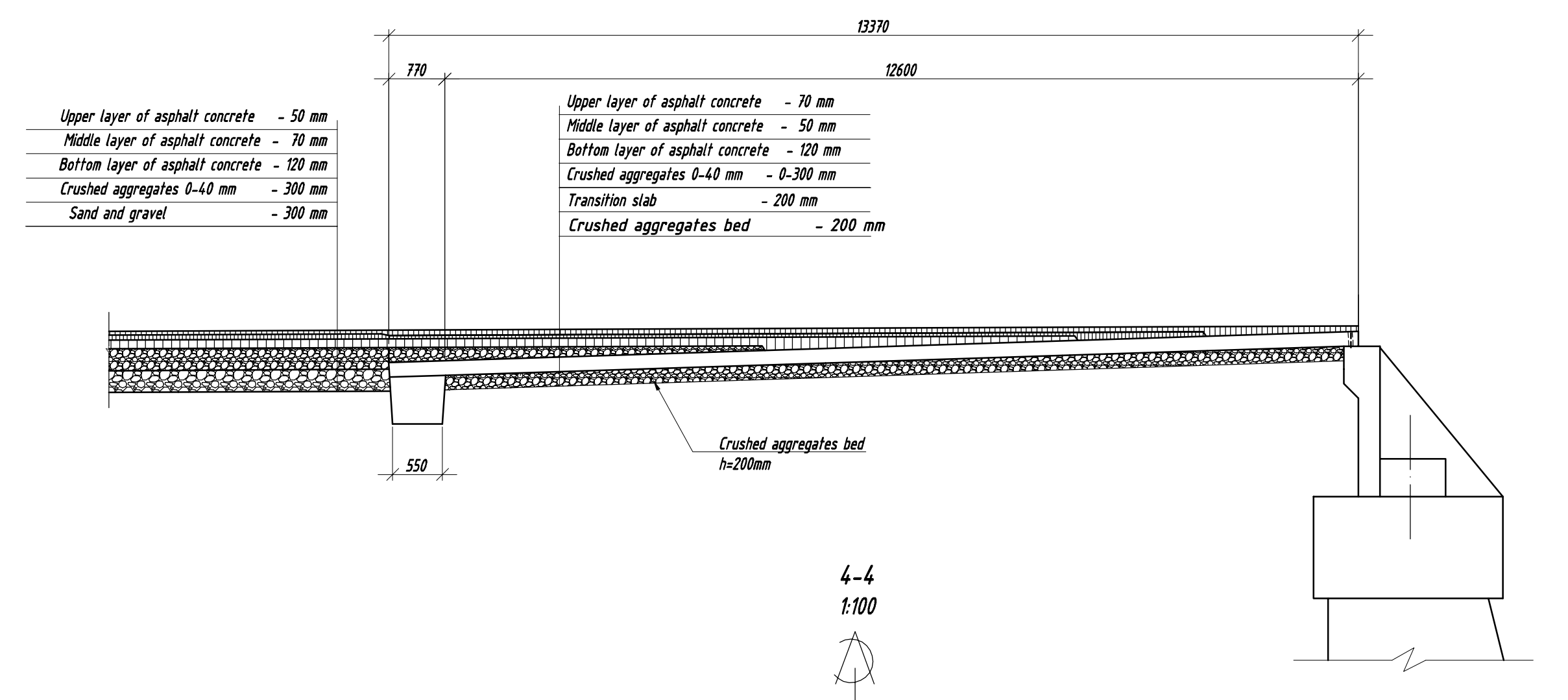
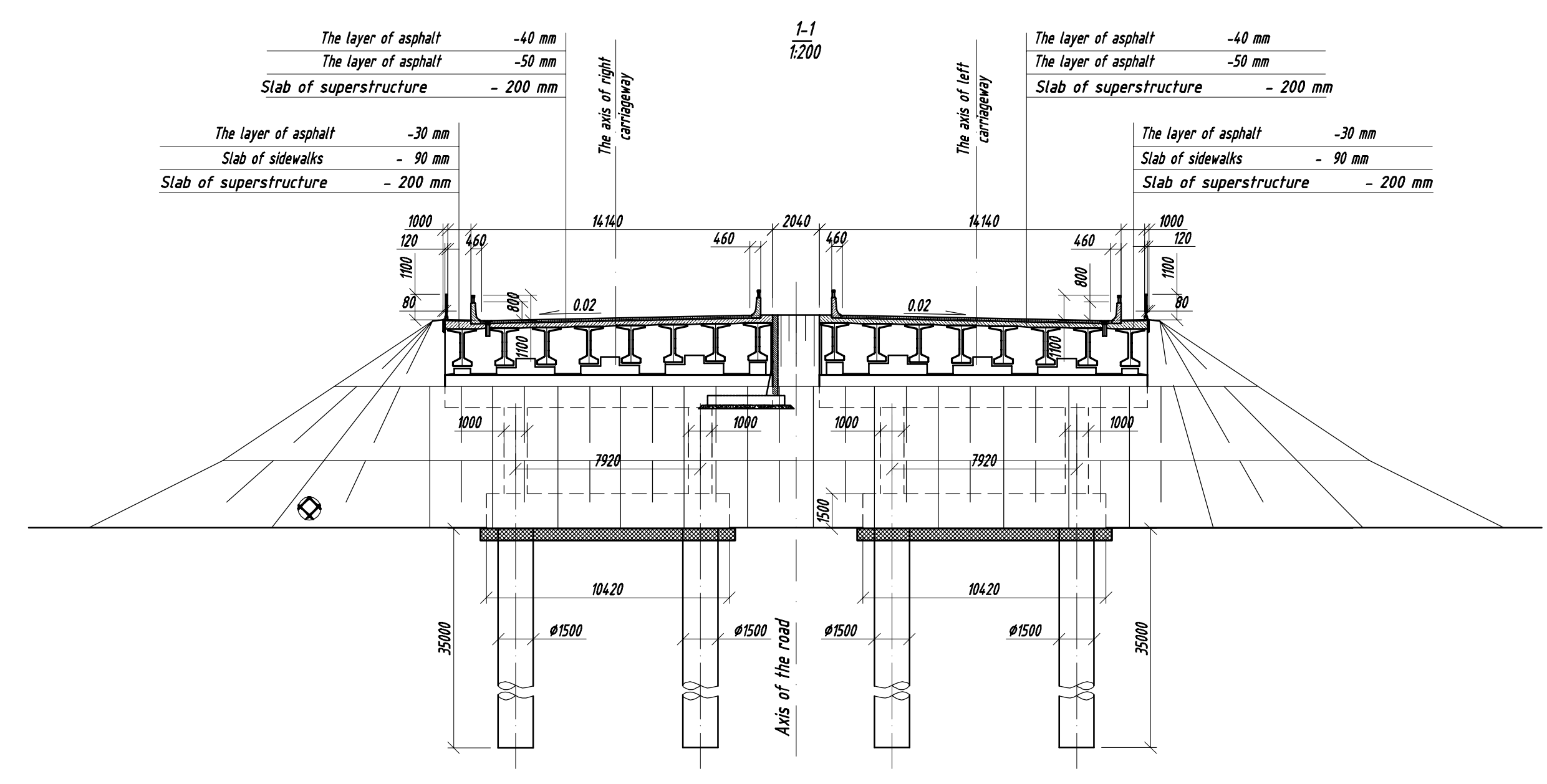
Specification for the bridge

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
Prefabricated units				
1	Galvanized steel pipe 159x5, L= 6000 mm	29	91,74	2660,46
2	Galvanized steel pipe 159x4, L= 6000 mm	5	91,74	458,70
3	Cast-iron funnel	30	28,50	855,00
Details for fixing				
4	Mechanical anchor M12 with the bolt head	100	0,153	15,30
5	Mechanical anchor M12 with the countersunk head	2	0,147	0,294
6	Galvanized threaded rod M12 L= 1000/2000 mm	46/23	0,725/1,45	33,35/33,35
7	Bolt M12x50	128	0,058	7,424
8	Nut M12	388	0,016	6,208
9	Flat washer M12	511	0,006	3,066
10	-5 x 40x250 EN 10025-2:2006	105	0,393	39,30
11	-5 x 40x240 EN 10025-2:2006	105	0,377	39,585
12	-5 x 40x450 EN 10025-2:2006	109	0,55	59,95
13	-5 x 40x450 EN 10025-2:2006	9	0,55	4,95

- In the drawing shown drainage system for the bridge.
- Pos.2 and pos.3 install in the design position and fix before concreting of superstructure slab
- In unit II nut pos.8 weld to the clamp pos.13 in the opening of this clamp. After installation of hole fixing galvanized threaded rod pos.6 weld to the inner radius of clamp.
- Galvanized steel pipes pos.1,2 cut at an angle, set and weld in the place of installation. The places of welded joints drainage system cleaned and protected by the paint with zinc-containing components.
- Mechanical anchor M12 with the countersunk head pos.5 install only on the fixing what will be on cross-beam CB-2.
- Galvanizing of steel pipes pos.2,3 must be corresponds to BS EN ISO 1461 (in accordance with technical specification).
- Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

ALT-PK 54-08-125-24		Construction of Samtredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500	
Proj. Manag. A. Valukin	Checked by H. Garabinskaya	Exec. by R. Garpaljuk	Stage Sheet Sheets
Overpass PK 54-08		WD 1	1
Drainage. Drainage system with monolithic slabs		"Road Building "Altcom" LLC	

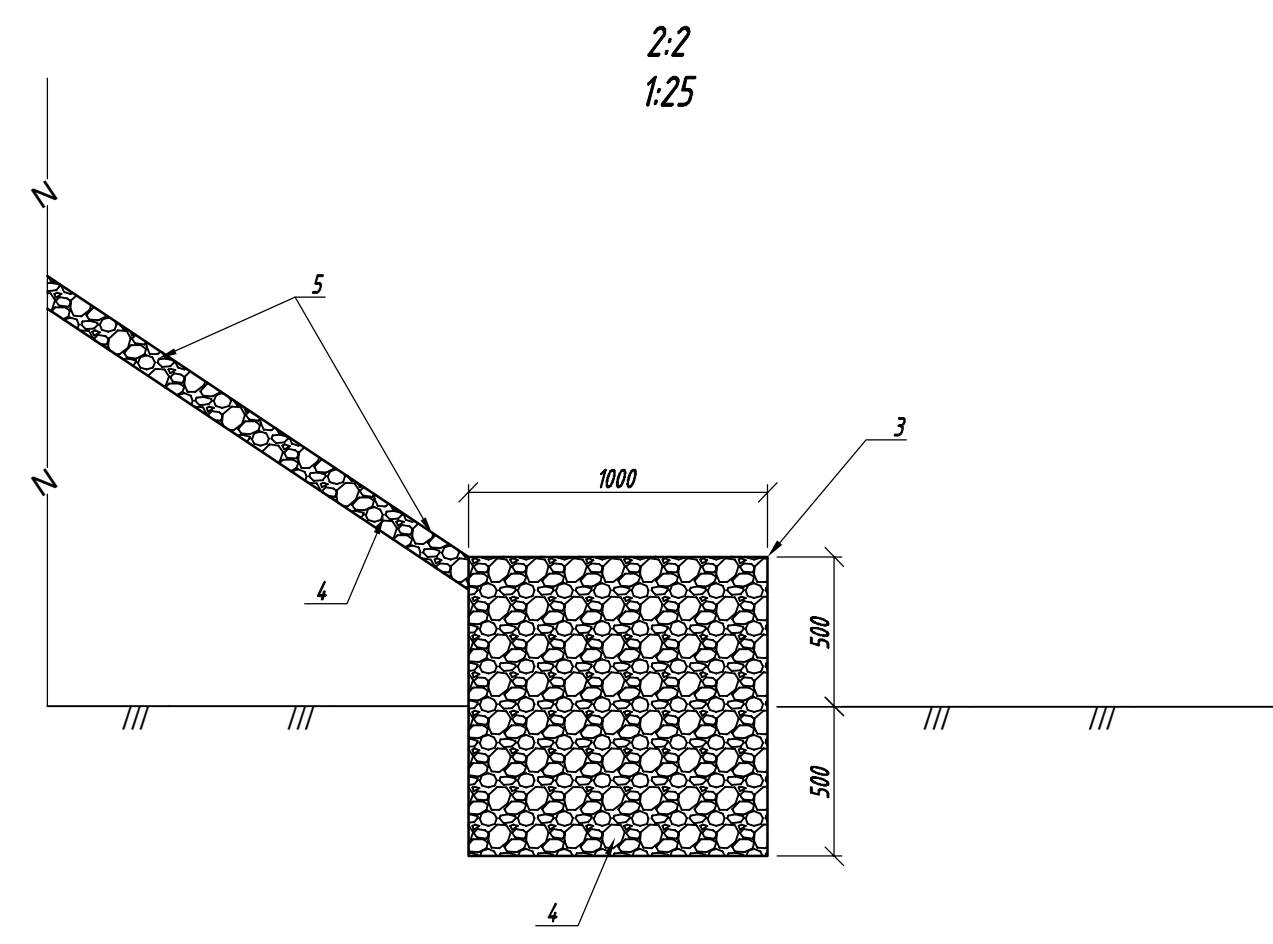
1-1
1:100



Specification of abutment #1 and #6

Pos.	Description	Name	1	6	Total	Remark
SW-1	Supporting wall		1	1	2	8,37 m ³
TS-1	Transition slab		2	2	4	34,40 m ³
D-1	Defent		2	2	4	11,34 m ³
3	Gabion mattress 2.0x1.0x1.0		43	25	68	
4	Stone filling of gabions		392	112	504	
5	Gabion mattress h=0.23 m		1330	270	1600	
6	Sand and gravel for cone		4900	1850	6750	
7	Crushed aggregates 0-40 h=150mm		171	171	342	

In the drawing shown abutment #1R and #1L. Abutment #6L and #6R are symmetrical by this drawing



AL-PK 54-08-125-25-K

Construction of Samtredia - Ergileli road section of E-60
km 0 +000 - km 11 +500

Overpass PK 54-08

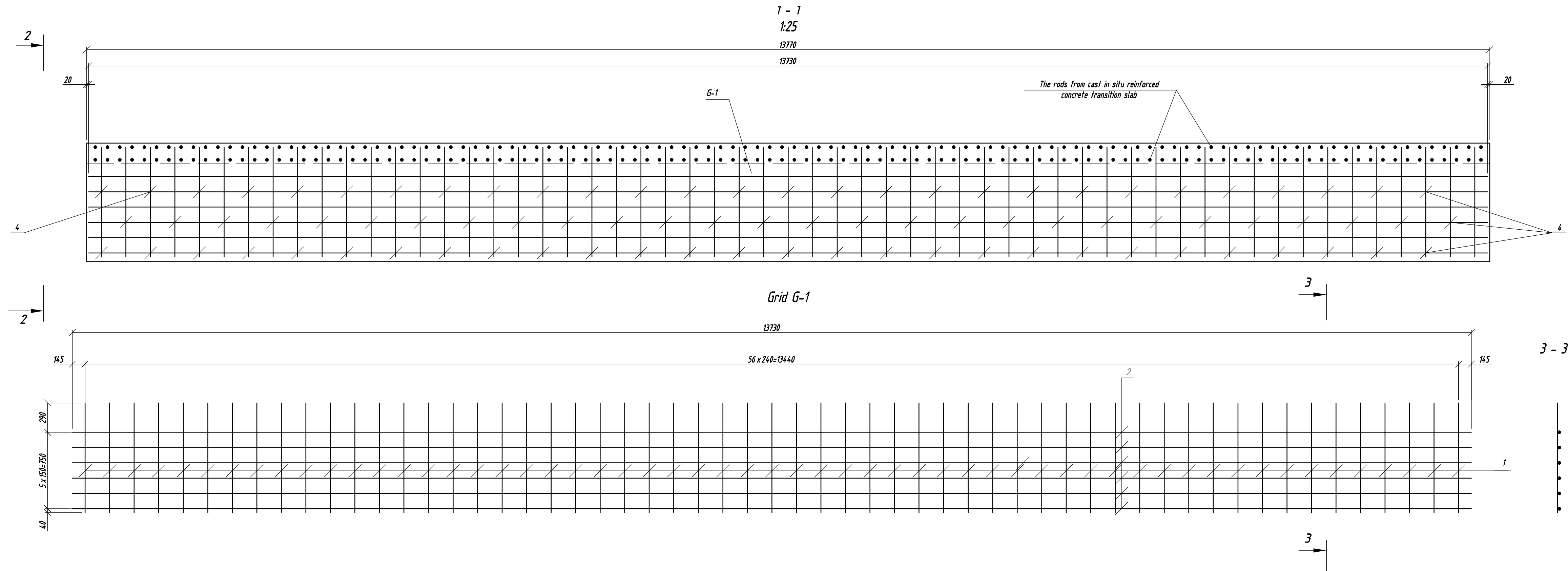
Conjunction of overpass with embankment

Stage 1
Sheet 1
Sheets 1

Proj. Manag. A. Valukin
Checked by H. Garabinskaya
Exec. by R. Garpalyuk

R. Harlander
H. Garabinskaya
R. Garpalyuk

"Road Building "Altcom" LLC



2 - 2

Register of items

Pos.	Sketch
4	

Register of steel consumption per element, kg

Mark of element	Reinforcement			Total
	BS 4449:2005 (B500B)			
	Ø8	Ø12	Ø16	
D-1	23.52	151.32	324.90	499.74

Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<u>Prefabricated units</u>				
Grid G-1				
1	Ø16 B500B BS 4449:2005 L=1800	57	2,85	162,45
2	Ø12 B500B BS 4449:2005 L=14210	6	12,61	75,66
<u>Details</u>				
4	Ø8 B500B BS 4449:2005 Laverage=700	84	0,28	23,52
<u>Other materials</u>				
5	Concrete C30/37, XC-2, XD-3, XF-1, S4, D22		11,34 m ³	

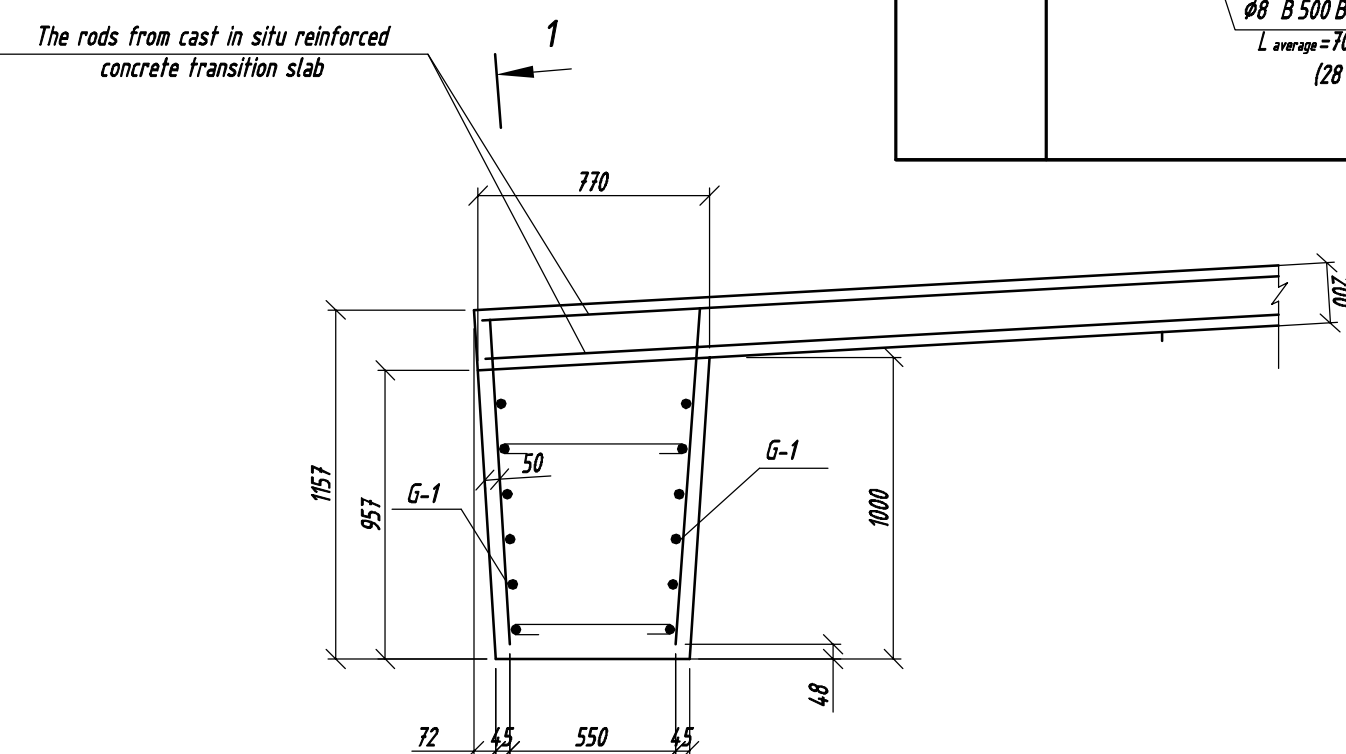
1. The length of the rods pos.3 is given in the specification, taking into account of overlap of reinforcement - 40Ø12=480 mm.

2. In the drawing shown detent for abutment #1R and #6L. Detent for abutment #1L and #6R are symmetrical by this drawing

3. Reinforcement must be corresponds to BS 4449 u BS 4483 (in accordance with technical specification).

4. Concrete must be corresponds to BS 8500-1 u BS 8500-2 (in accordance with technical specification).

5. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).



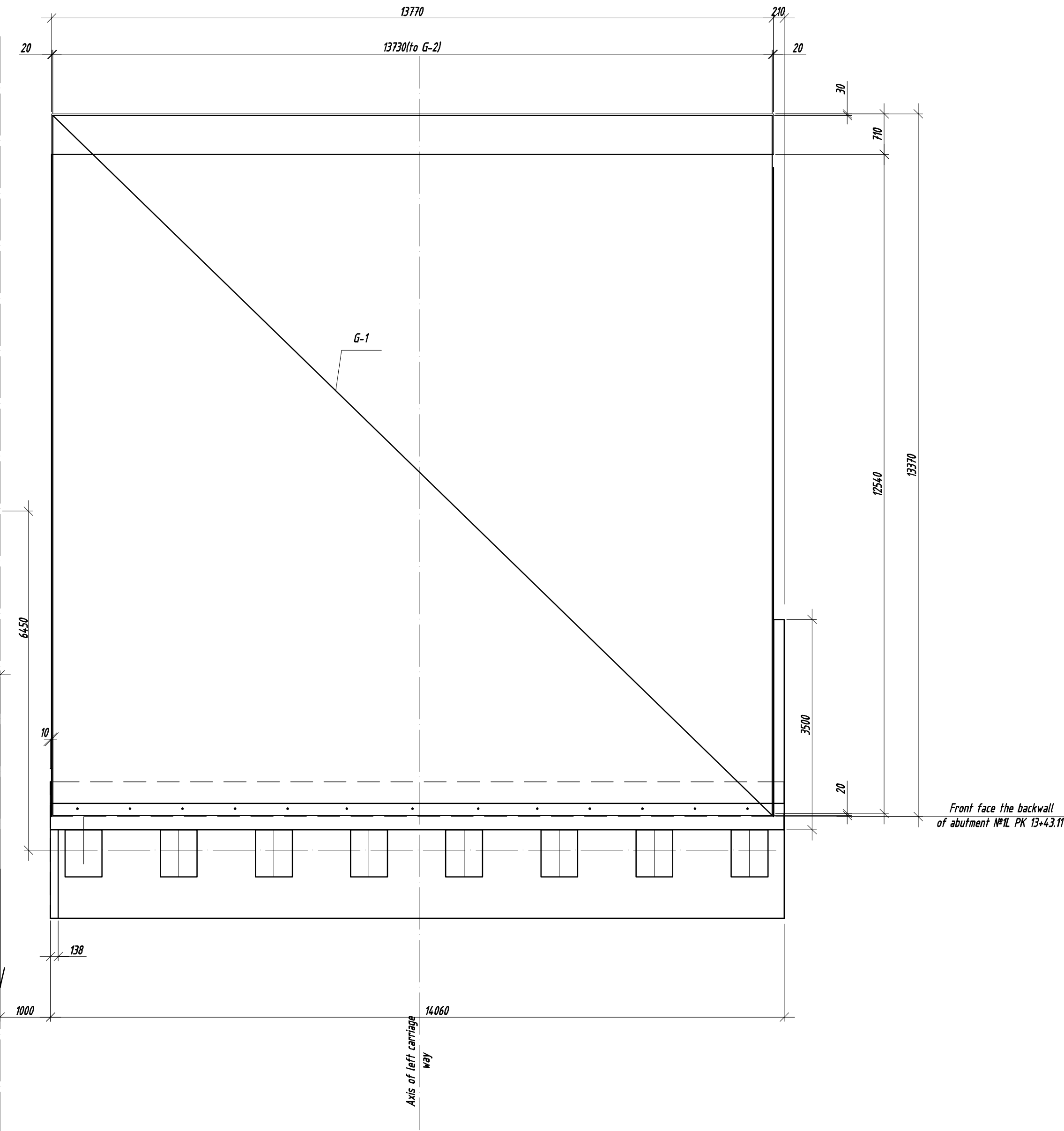
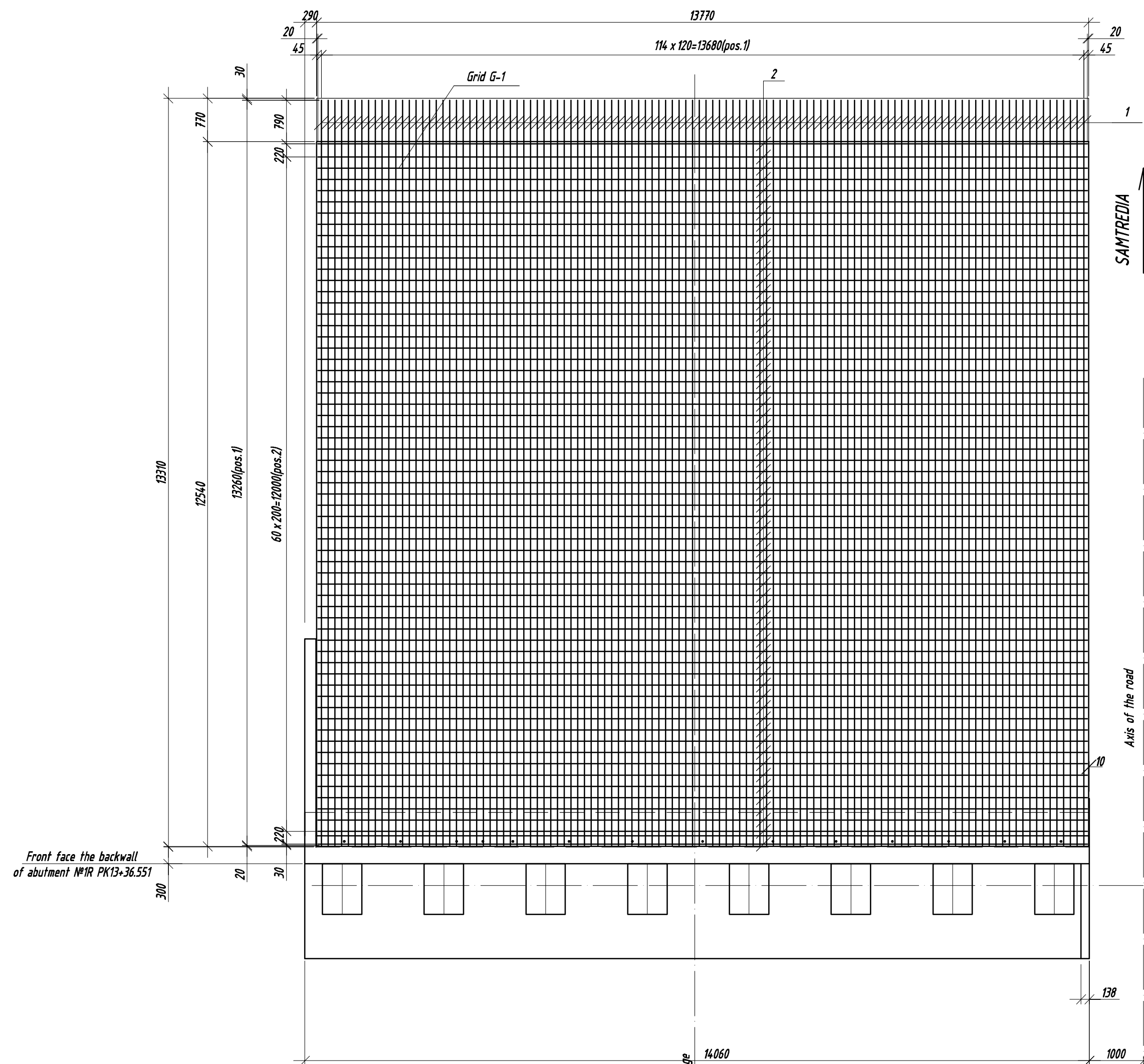
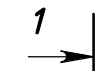
1

ALT-PK 54+08-125-26-K		Construction of Samtredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500		
	RE R. Harlander Proj. Manag. A. Valukin Checked by H. Garabinskaya Exec. by R. Garpolyuk	Stage WD Sheet 1 Sheet 1	Overpass PK 54+08 Detent structure of overpass "Road Building" ALT-COM LLL	

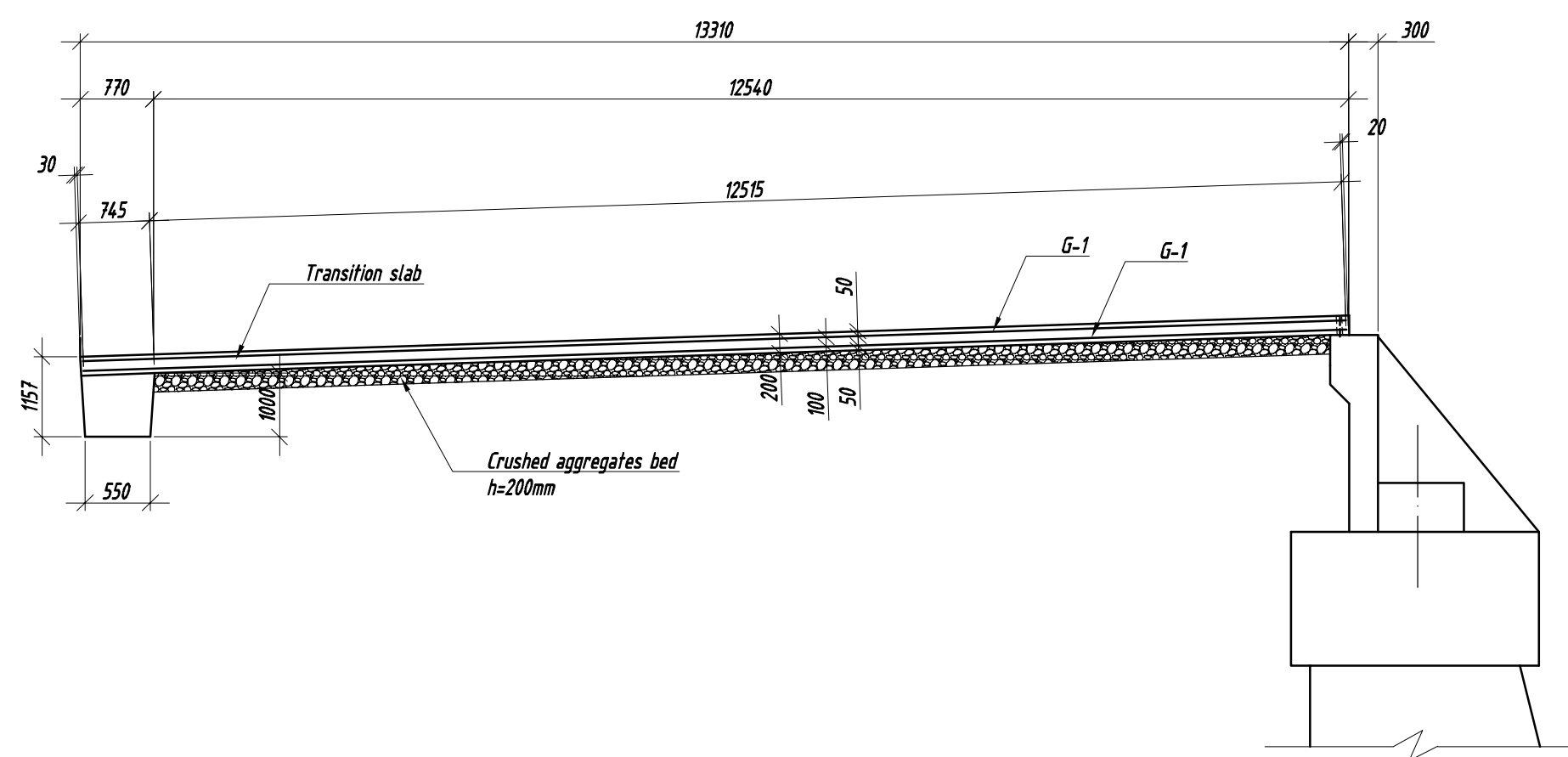


Reinforcement diagram transition slab

Plan



1 - 1
1:100



Register of steel consumption per element, kg

Mark of element	Reinforcement	
	BS 4449:2005 (B500B)	
	ø16	
TS-1	7888.62	7888.62

Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<i>Prefabricated units</i>				
G-1	Grid G-1	2	3944.31	7888.62
1	ø16 B500B BS 4449:2005 L=13980	114	22.06	2514.84
2	ø16 B500B BS 4449:2005 L=14380	63	22.69	1429.47
<i>Other materials</i>				
3	Concrete C30/37, XC-2, XD-3, XF-1, S4, D22		34.40 m ³	
4	Crushed aggregates 0-40		29.50 m ³	

1. The length of the rods pos.1,2 is given in the specification, taking into account of overlap of reinforcement - 45ø16=720 mm.

3. In the drawing shown a grid G-2. Grid G-1 have a mirror image.

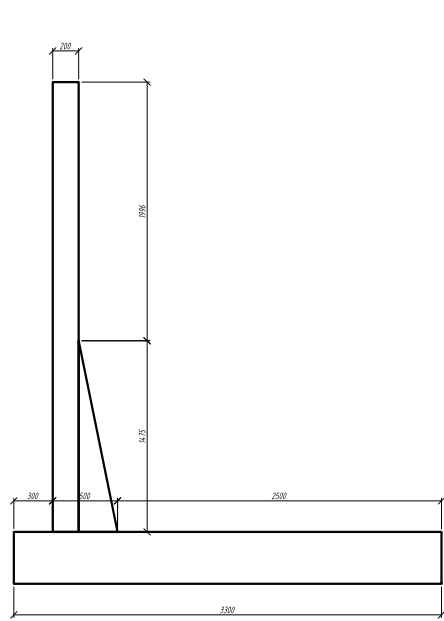
4. In the drawing shown transition slab for abutment #1R and #6L. Transition slab for abutment #1L and #6R are symmetrical by this drawing

5. Reinforcement must be corresponds to BS 4449 u BS 4483 (in accordance with technical specification).

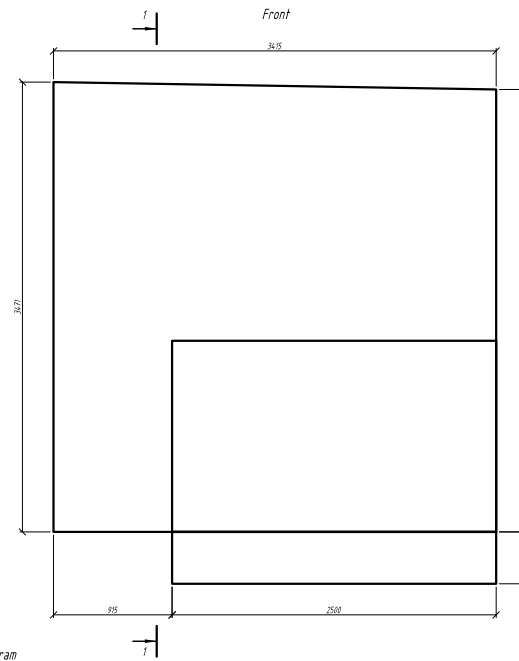
6. Concrete must be corresponds to BS 8500-1 u BS 8500-2 (in accordance with technical specification).

7. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

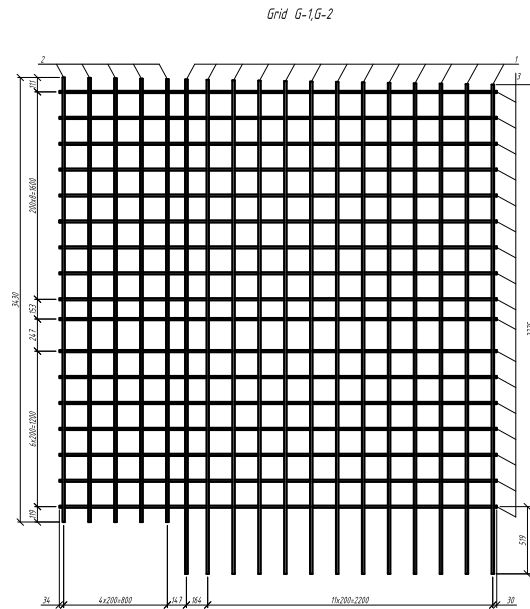
ALT-PK 54+08-125-27-R				Construction of Samtredia - Grigoletti road section of E-60 km 0 +000 - km 11 +500			
Proj. Manag.	A. Vakulin	Stage	WD	Sheet	1	Sheets	1
Checked by	H. Garabinskaya	Overpass PK 54+08		Transition slab structure of overpass			
Exec. by	R. Garpalyuk						"Road Building "Altcom" LLC



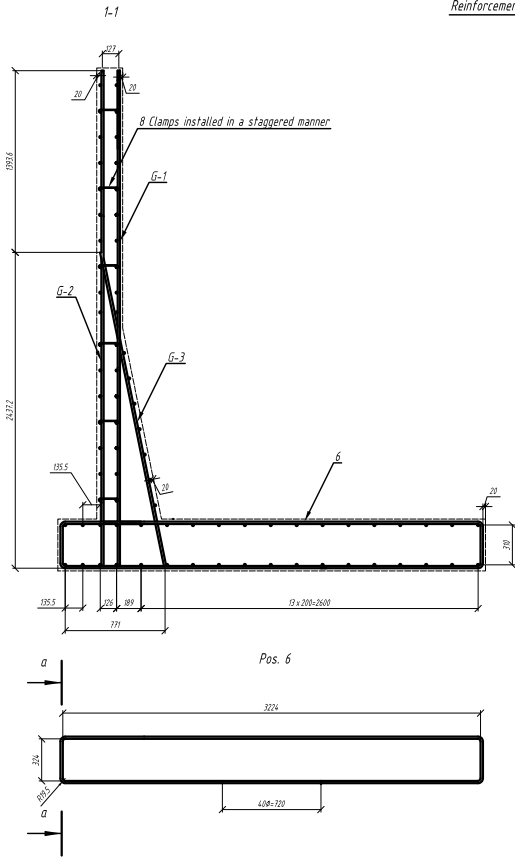
Reinforcement diagram



Front
Gage G-1, G-2 conventionally not shown

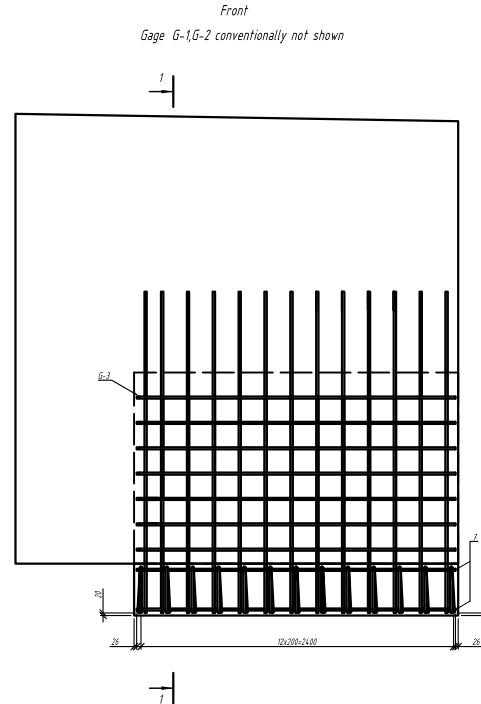


Grid G-1, G-2

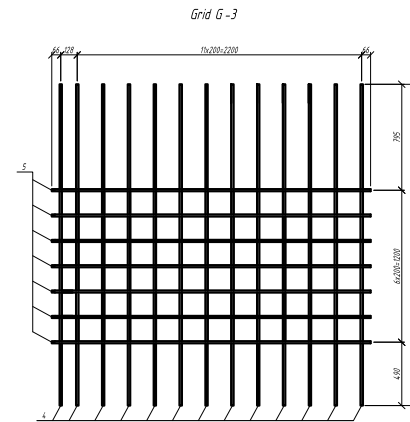


Pos. 6

a-a



Front



Grid G-3

Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Remark
Grid G-1				
1	Ø18 B500B BS 4449:2005, Layer=3800	13	7.60	98.80
2	Ø18 B500B BS 4449:2005, Layer=3427	5	6.85	34.25
3	Ø14 B500B BS 4449:2005, L=3375	17	4.08	69.36
Grid G-2				
1	Ø18 B500B BS 4449:2005, Layer=3800	13	7.60	98.80
2	Ø18 B500B BS 4449:2005, Layer=3427	5	6.85	34.25
3	Ø14 B500B BS 4449:2005, L=7390	17	4.08	69.36
Grid G-3				
4	Ø18 B500B BS 4449:2005, L=2485	13	4.97	64.61
5	Ø14 B500B BS 4449:2005, L=2460	7	2.97	20.79
Details				
6	Ø18 B500B BS 4449:2005, L=8540	13	17.08	222.04
7	Ø14 B500B BS 4449:2005, L=2460	36	2.98	107.28
8	Ø8 B500B BS 4449:2005, L=250	36	0.10	3.60
Other materials				
9	Concrete C20/25, XC-2, XD-2, XF-3, XA-2, S4, D22		8.37 m ³	

1.Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).

2.Concrete must be corresponds to BS 8500-1 and BS 8500-2 (in accordance with technical specification).

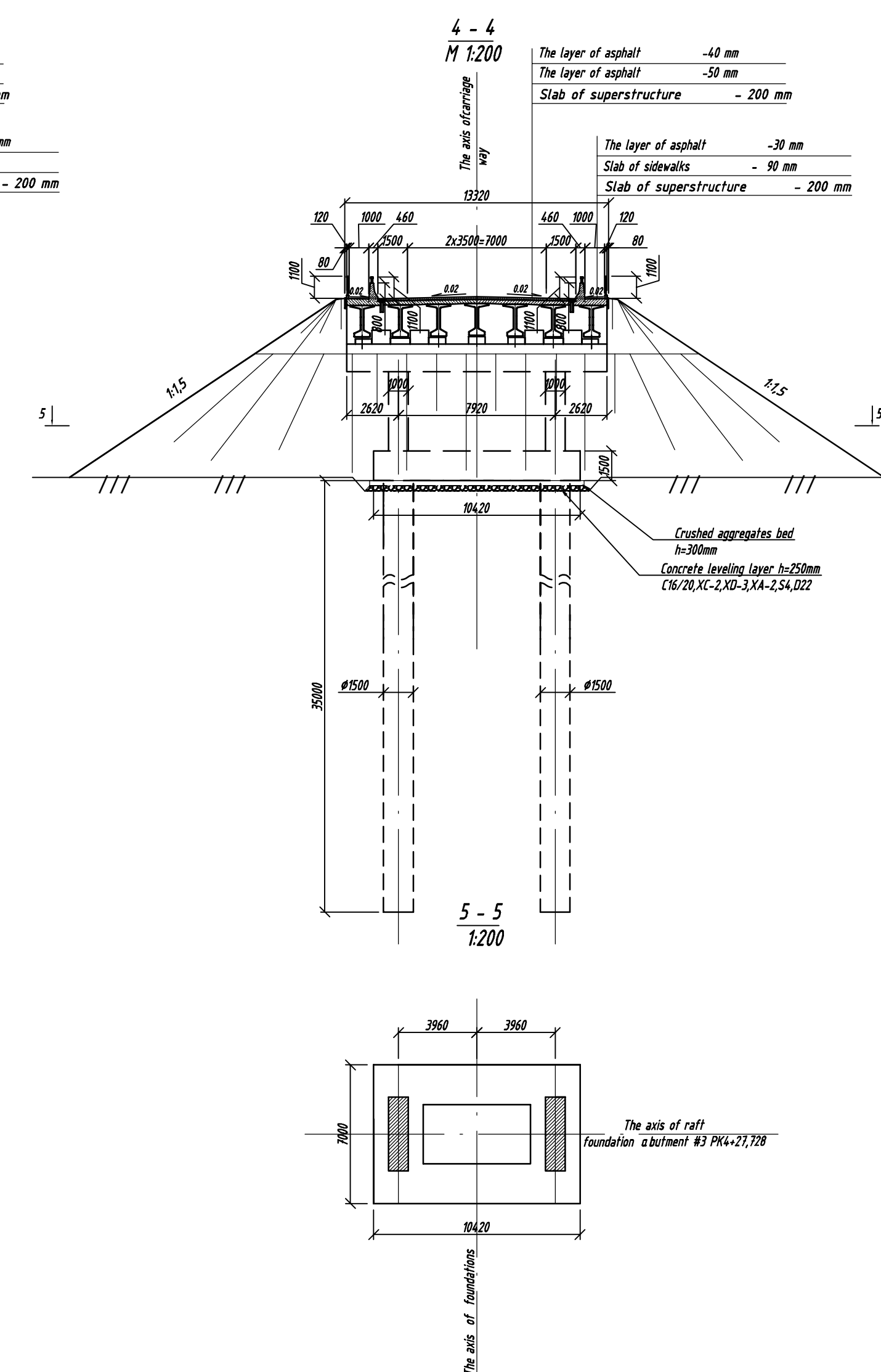
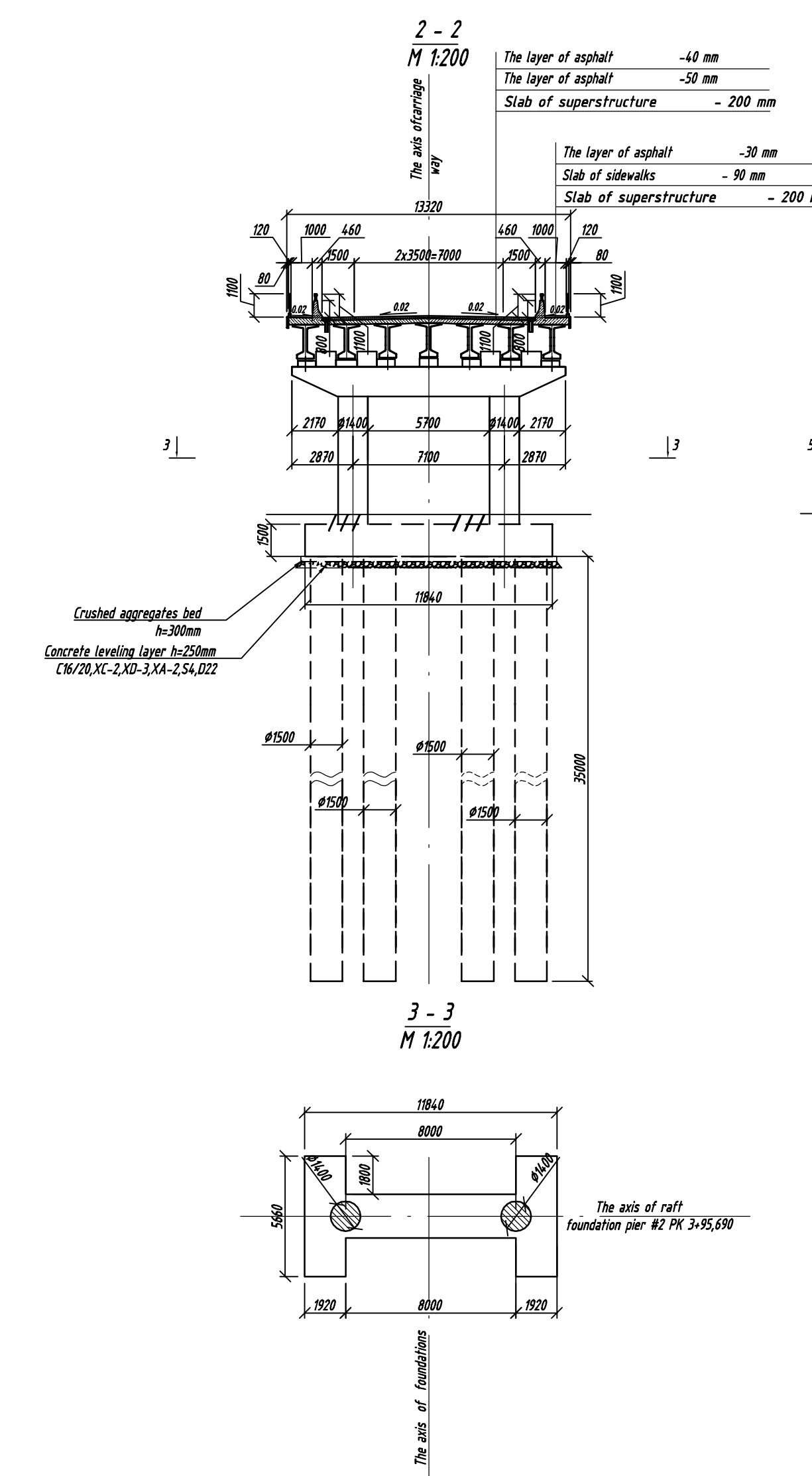
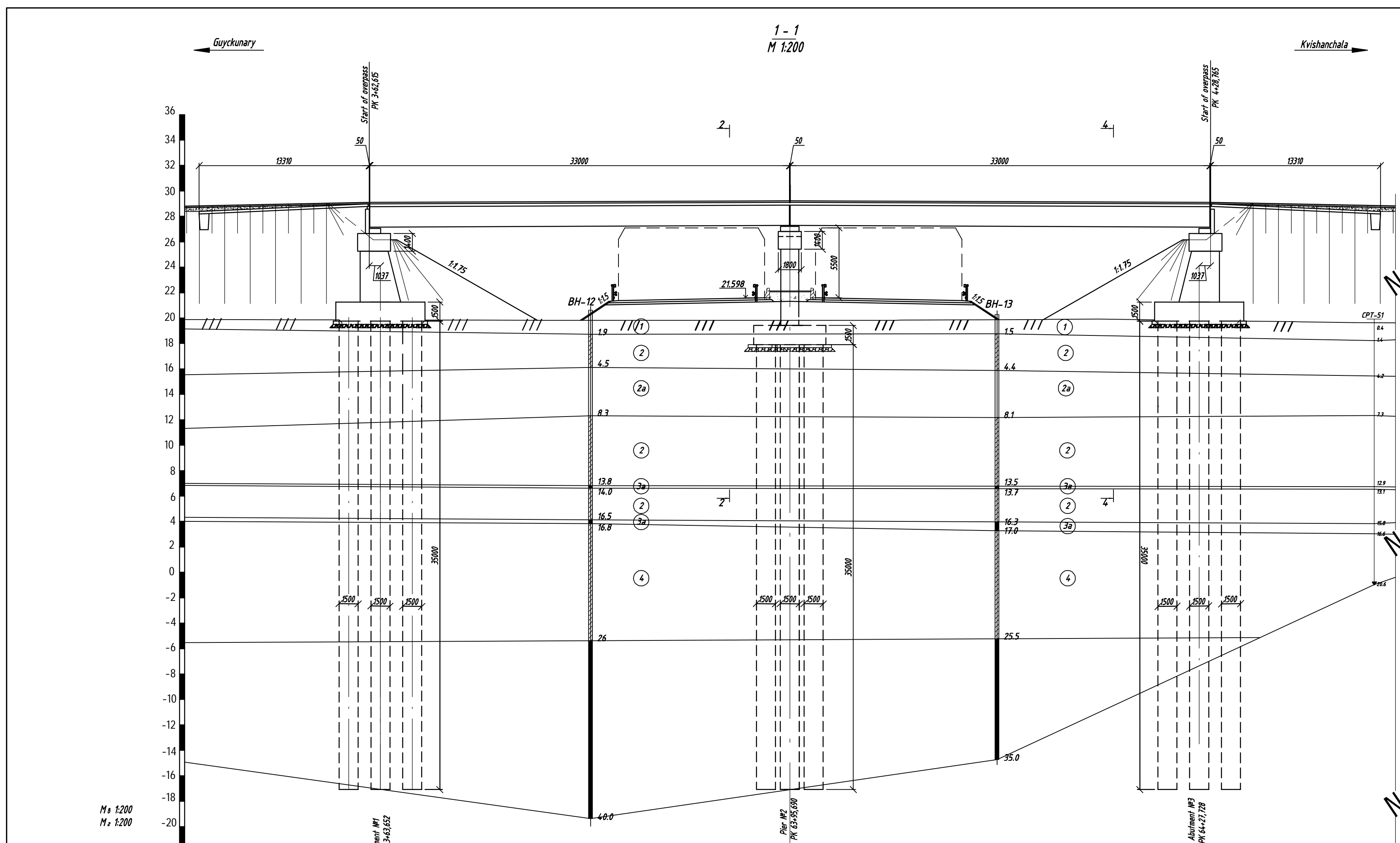
3.Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

Register of steel consumption per element, kg

Mark of element	Reinforcement			Total
	BS 4449:2005 (B500B)			
SW-1	Ø8	Ø14	Ø18	823.14
	3.60	266.79	552.75	

ALCOM				Construction of Staircase - Original roof section of E-09 for E-09B - for 11-09B			
Project Manager	A. Vukobratovic	Stage	WD	Sheet	1	Sheet	1
Checked by	M. Vukobratovic	Supporting wall structure of overpass		"Road Building" Alcom LLC			
Drawn by	M. Vukobratovic						

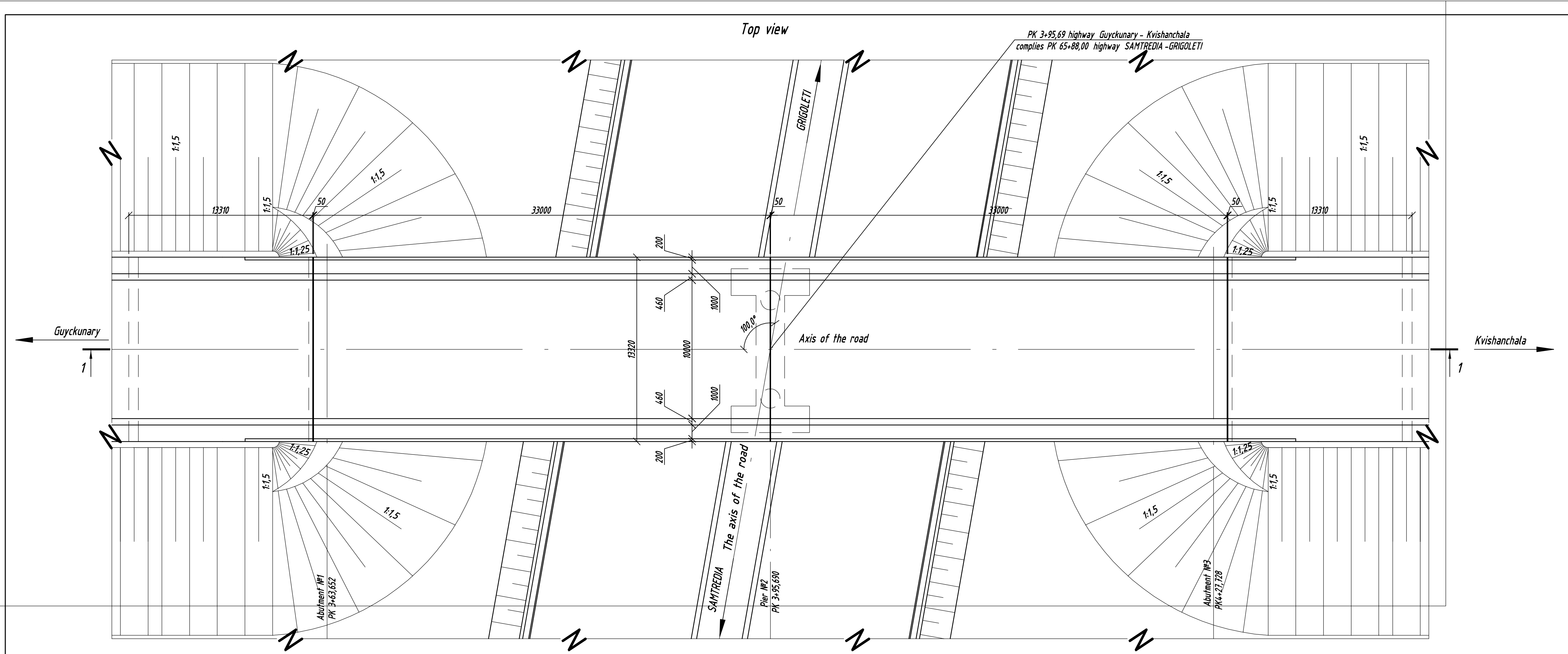
B-4 OVERPASS AT PK65+88



Gradients and vertical curves		R=3000 K=340.7 PK 3+95.69									
Level along the axis of carriage way, m		28.99	29.018	29.154	29.200	29.176	29.10	29.018	28.87		
Level of ground, m		19.06	19.06	19.02	19.01	19.01	19.91	19.79	19.65		
The distance, m		2,615	16,348	15.69	4.31	20,00	8.765	11,235			
PK		PK 3+60.00	PK 3+80.00	PK 3+95.69	PK 4	PK 4+20.00	PK 4+40.00				

ALTCOM 65-88-121-01-K		Construction of Samredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500		
Proj. Manag.	A. Vidulin	Stage	WD	1
Checked by	H. Garibaldy	Sheet	1	2
Exec. by	R. Garpolyuk	Overpass PK 65-88		
		General view of overpass		
		"Road Building 'Altcom' LLC		





ALT-PK 65+88-121-01		Construction of Samtredia - Grigoleli road section of E-60 km 0+000 - km 11+500		
	RE	R.Hartander		
	Proj.Manag.	A. Valukin	Stage	Sheet
	Checked by	H.Garabinskaya	WD	2
	Exec. by	R.Garpolyuk	Overpass PK 65+88	2
			General view of overpass	
				"Road Building "Altcom" LLC



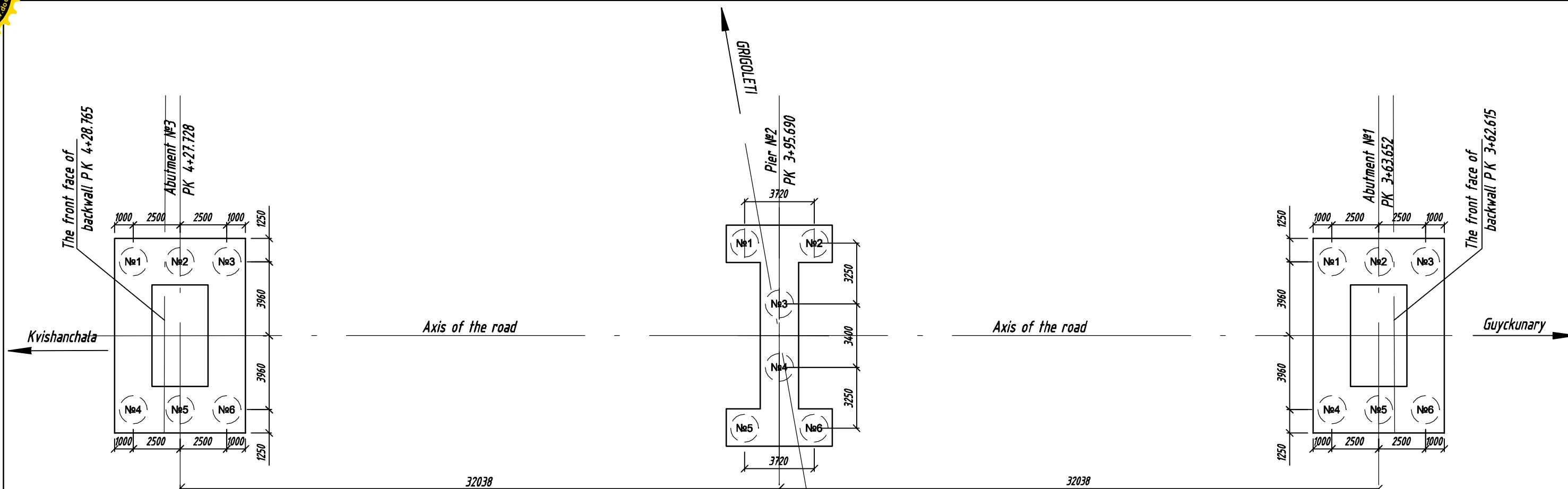
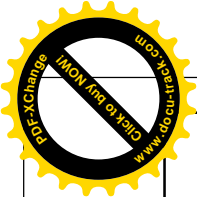
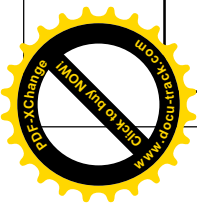
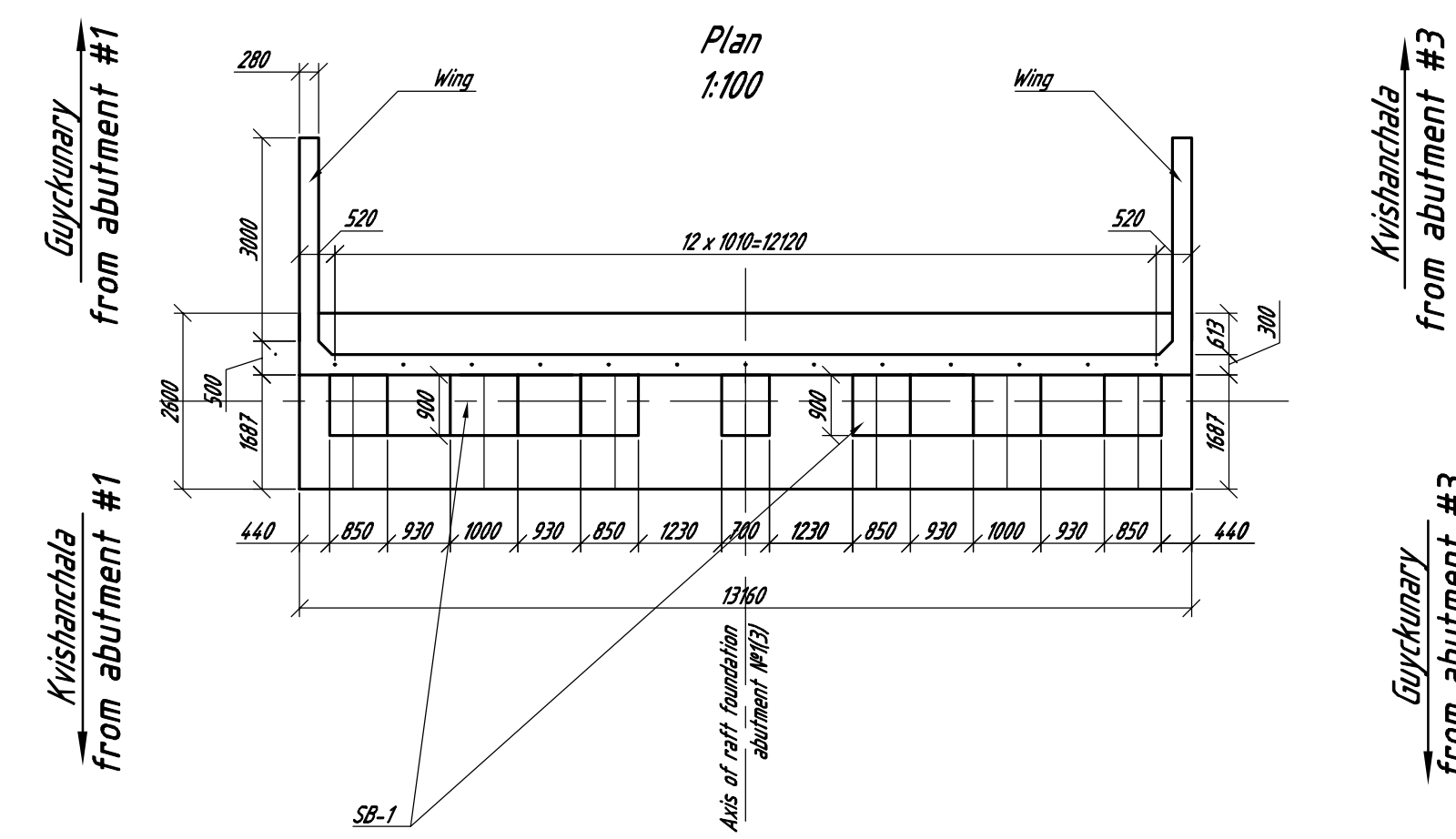
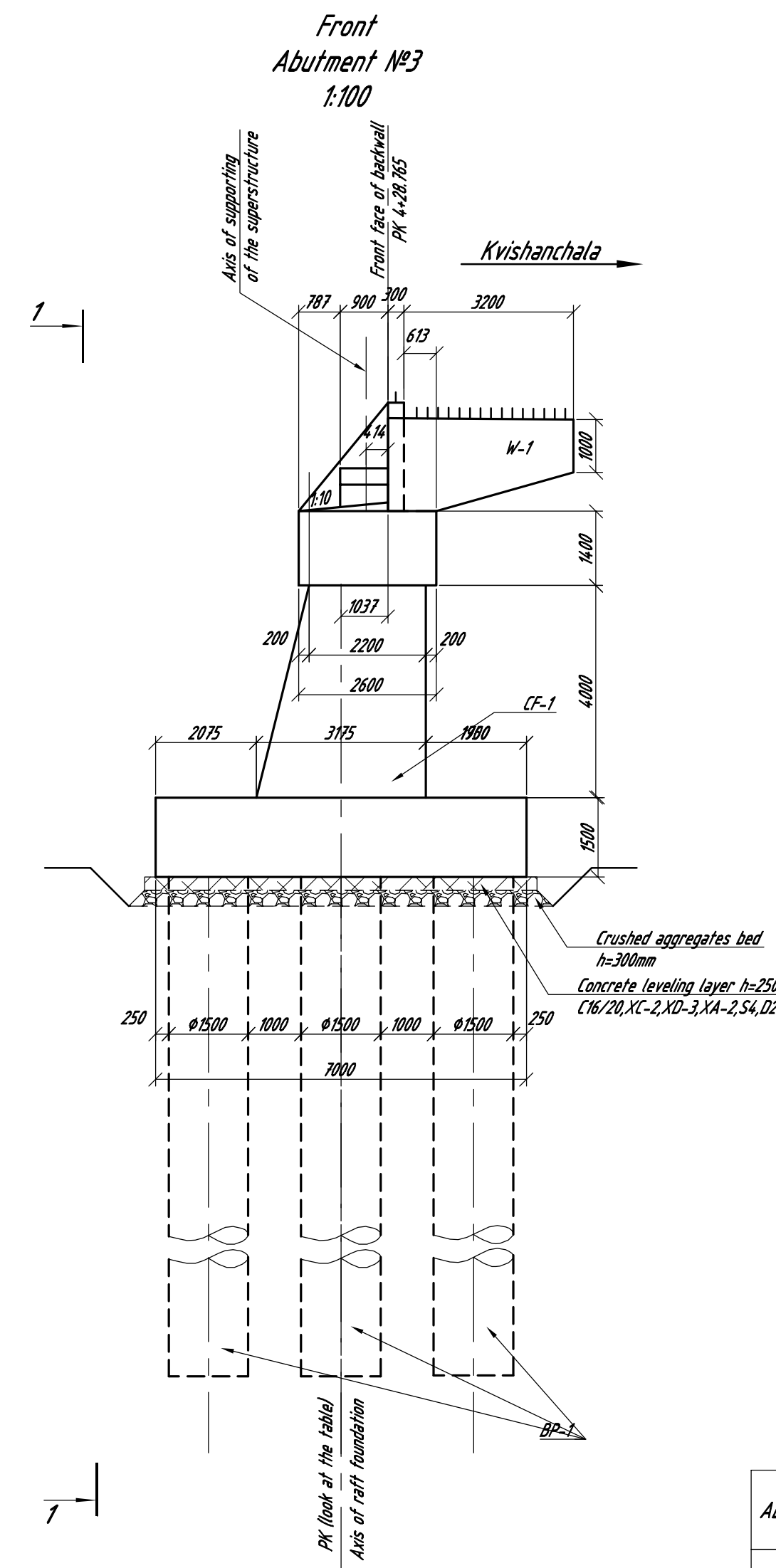
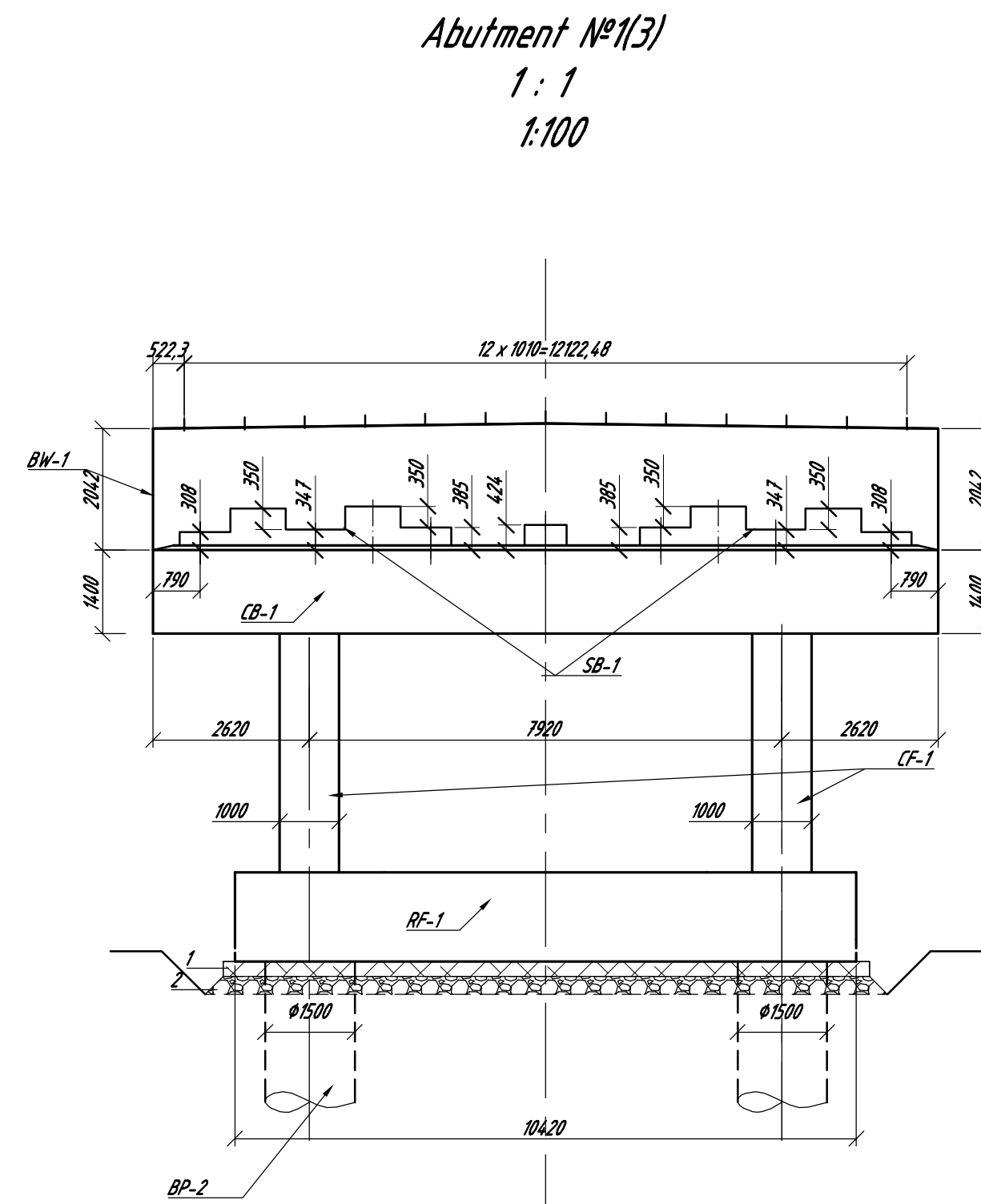
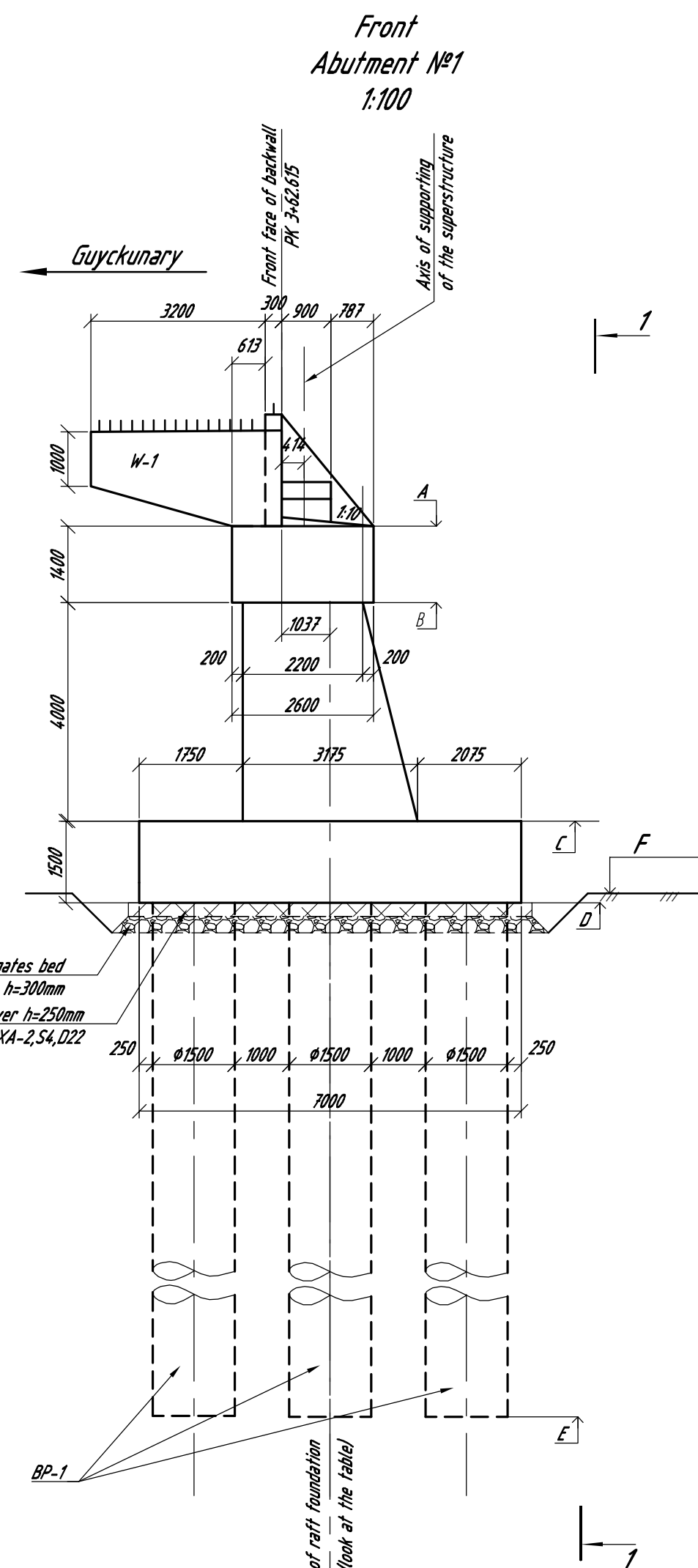


Table of coordinates of bored piles centers

Pile №	Abutment №1		Pier №2		Abutment №3	
	PK 3+63.652		PK 3+95.690		PK 4+27.728	
1	x	4666979.3177	4667007.1728	4667035.1452		
	y	275319.3225	275304.7675	275287.8738		
2	x	4666977.1395	4667003.9056	4667032.9670		
	y	275320.5495	275306.6080	275289.1008		
3	x	4666974.9614	4667003.9441	4667030.7889		
	y	275321.7766	275302.8561	275290.3278		
4	x	4666975.4305	4667002.2753	4667031.2580		
	y	275312.4221	275299.8938	275280.9733		
5	x	4666973.2524	4667002.3139	4667029.0799		
	y	275313.6491	275296.1419	275282.2003		
6	x	4666971.0742	4666999.0466	4667026.9017		
	y	275314.8761	275297.9824	275283.4273		

ALT-PK 65+88-121-02				Construction of Samtredia - Grigoletti road section of E-60 km 0 +000 - km 11 +500			
	Proj. Manag.	A. Valuikin					
	Checked by	H. Garobinskaya					
	Exec. by	R. Garpolyuk					
Overpass PK 65+88					Stage	Sheet	Sheets
Staking of pile centres					WD	1	1
 "Road Building "Altcom" LLC							



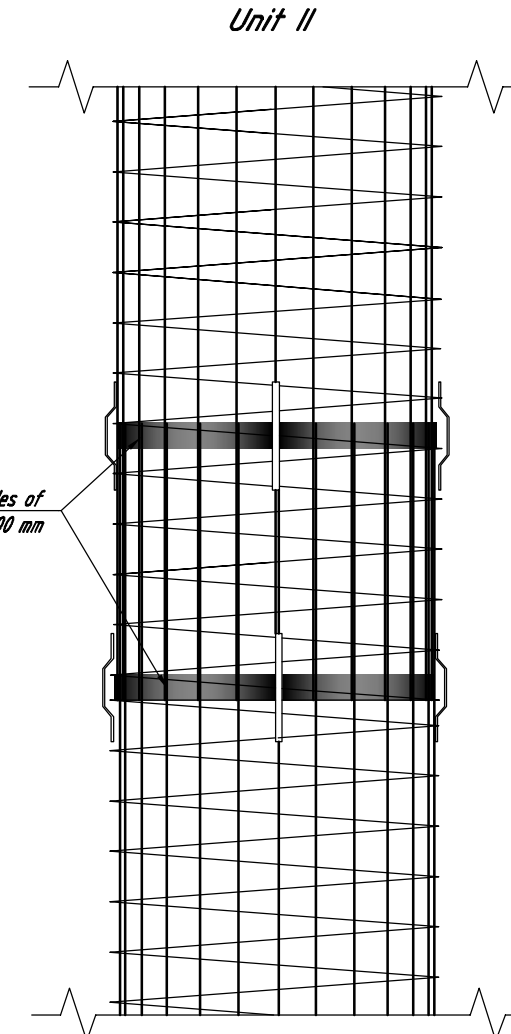
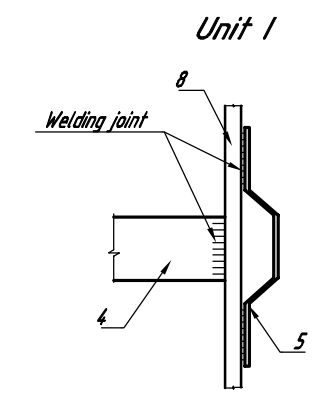
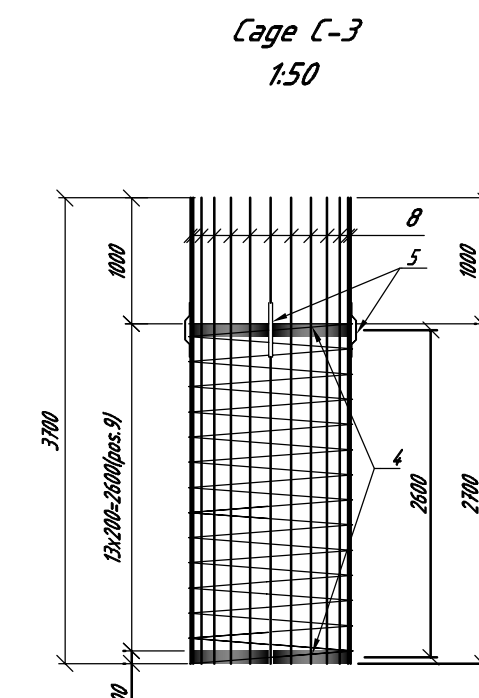
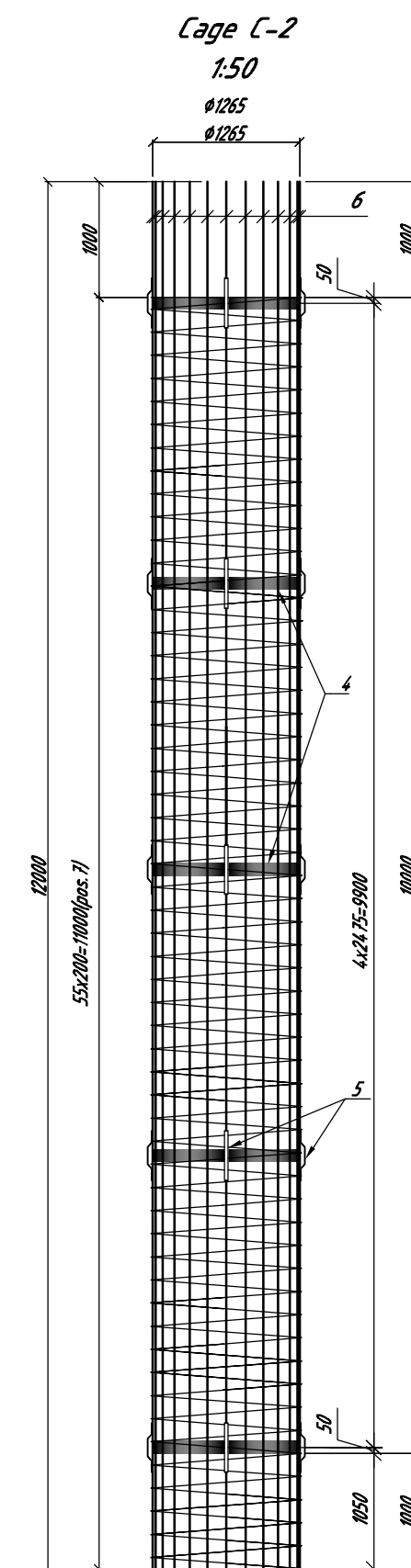
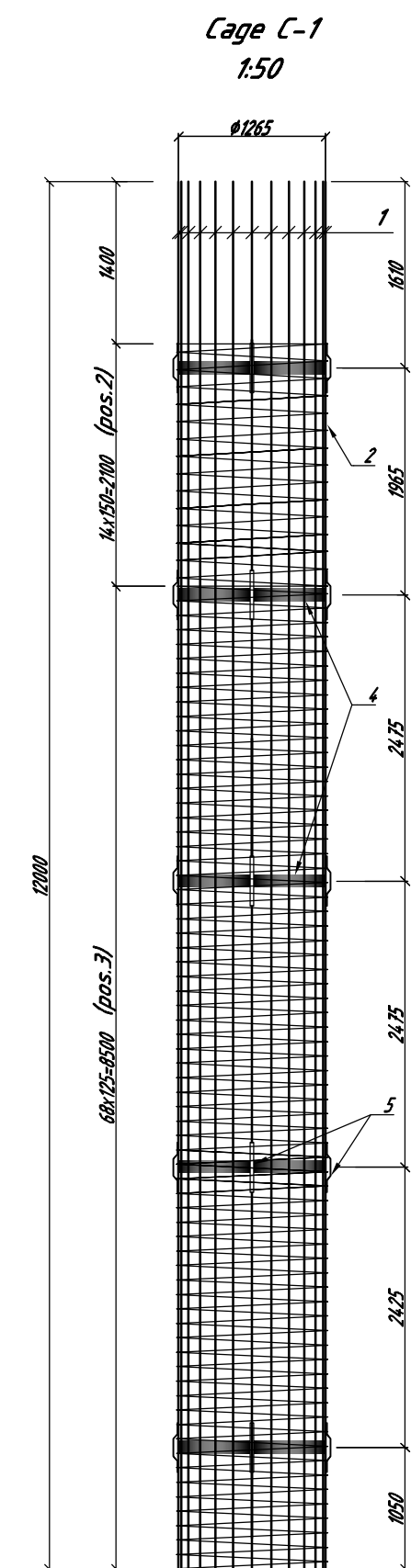
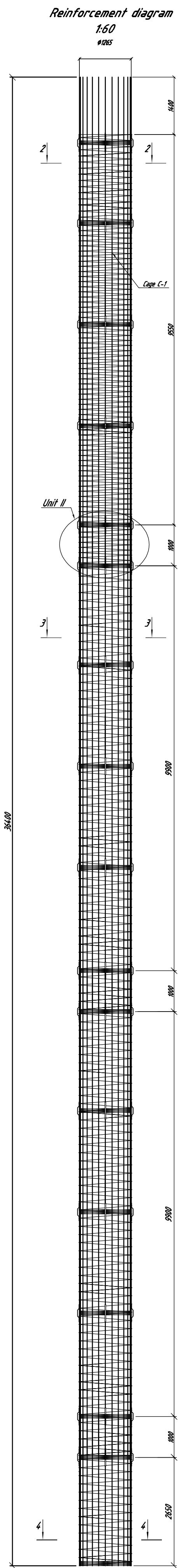
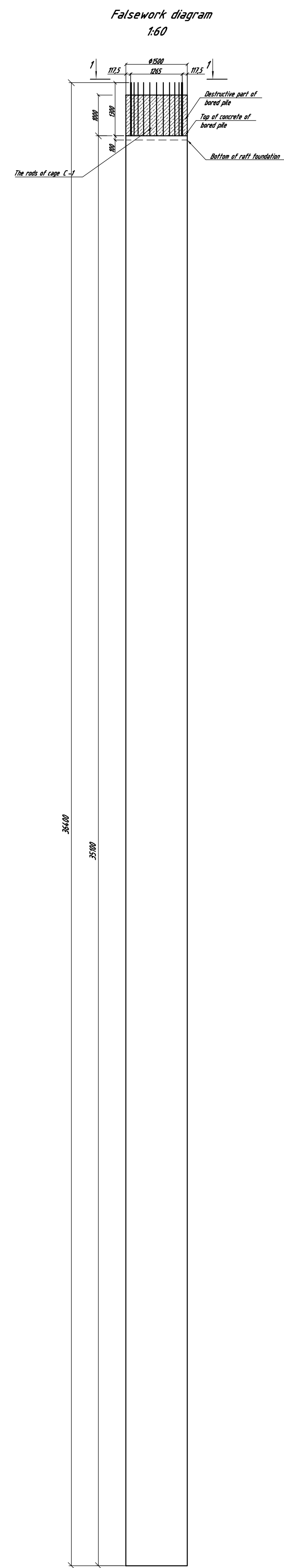


Specification of abutment #1 and #3

Pos.	Description	Name	1	3	Total	Remark
BP-1		Bored pile	6	6	12	62,02 m ³
RF-1		Raft foundation	1	1	2	85,02 m ³
CF-1		Counterfort	2	2	4	10,80 m ³
CB-1		Cross-beam	1	1	2	4,790 m ³
BW-1, W-1, OW-1		Backwall, Wings	1	1	2	12,08 m ³
SB-1		Supporting bedding Stops against seismicity	11	11	22	4,47 m ³
1		Concrete C16/20, XC-2, XD-3, XA-2, S4, D22	22,85 m ³	22,85 m ³	45,7 m ³	
2		Crushed aggregates 0-40 mm	27,4m ³	27,4m ³	54,8 m ³	

Abutment №	Layout (PK)	A	B	C	D	E	F
1	3+63.652	26.584	25.184	21.184	19.684	-15.316	19.860
2	4+27.728	26.584	25.184	21.184	19.684	-15.316	19.850

ALT-PK 65+88-121-03-K		Construction of Samredia - Grigalei road section of E-60 km 0+000 - km 11+500		
Proj. Manag.	A. Valtukin	Stage	Sheet	Sheet's
Checked by	H. Garabinskaya	WD	1	1
Exec. by	R. Garpolyak	General view of abutments		"Road Building "Altcom" LLC



Register of steel consumption per element, kg

Mark of element	Reinforcement						Embedded items		Total
	BS 4449:2005 (B500B)						Total	Total	
	Ø8	Ø10	Ø12	Ø16	Ø25	Ø32			
BP-1	251.32	174.9	54.73	49.28	2879.28	2045.52	5455.03	516.12	5967.19

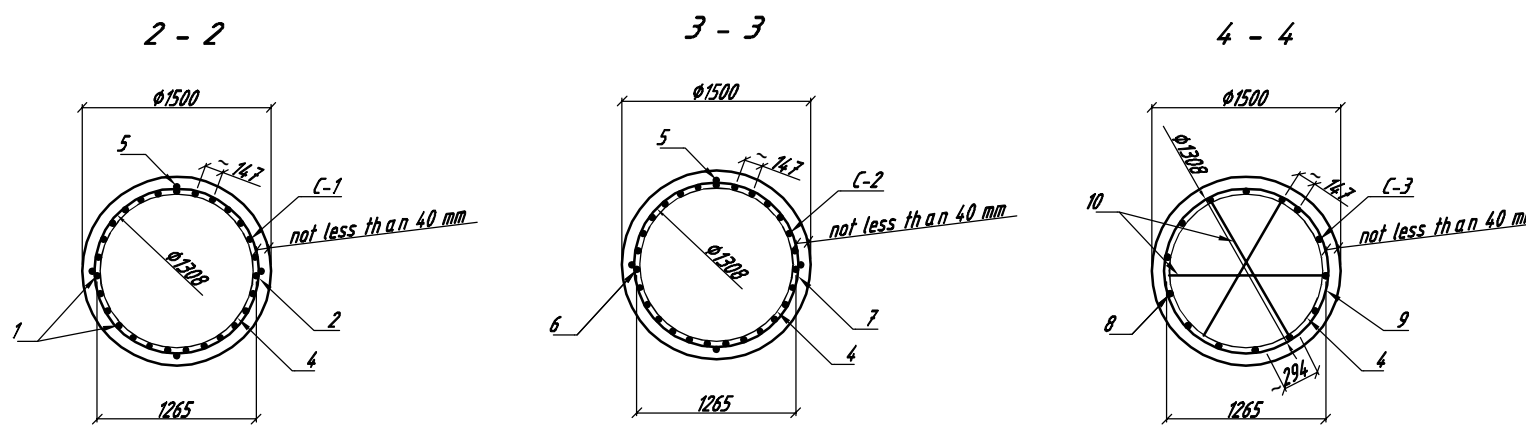
Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<i>Prefabricated units</i>				
<i>Cage C-1</i>				
C-1	Cage C-1	1		2442.35
1	Ø32 B500B BS 4449:2005, L=12000 mm	27	75.76	2045.52
2	Ø12 B500B BS 4449:2005, L=61635 mm	1	54.73	54.73
3	Ø10 B500B BS 4449:2005, L=283521 mm	1	174.9	174.9
4	-10x100x3862 EN 10025-2:2006	5	30.36	151.80
5	Ø16 B500B BS 4449:2005, L=420 mm	20	0.77	15.40
<i>Cage C-2</i>				
C-2	Cage C-2	2	1528.09	3056.18
6	Ø25 B500B BS 4449:2005, L=12000 mm	27	46.20	1247.40
7	Ø8 B500B BS 4449:2005, L=287310 mm	1	113.49	113.49
4	-10x100x3862 EN 10025-2:2006	5	30.36	151.8
5	Ø16 B500B BS 4449:2005, L=420 mm	20	0.77	15.40
<i>Cage C-3</i>				
C-3	Cage C-3	1		486.57
8	Ø25 B500B BS 4449:2005, L=3700 mm	27	14.24	384.48
9	Ø8 B500B BS 4449:2005, L=61635 mm	1	24.34	24.34
4	-10x100x3862 EN 10025-2:2006	2	30.36	60.72
5	Ø16 B500B BS 4449:2005, L=420 mm	4	0.77	3.08
10	Ø25 B500B BS 4449:2005, L=1200 mm	3	4.65	13.95
<i>Other materials</i>				
11	Concrete C30/37, XC-2, XA-2, S4, D22			62.02 m ³

Detail of welding pos.1,6,8 to pos.3



Detail of welding pos.2 to pos.3



Register of items

Pos.	Sketch
2	
3	
7	
9	
4	
5	

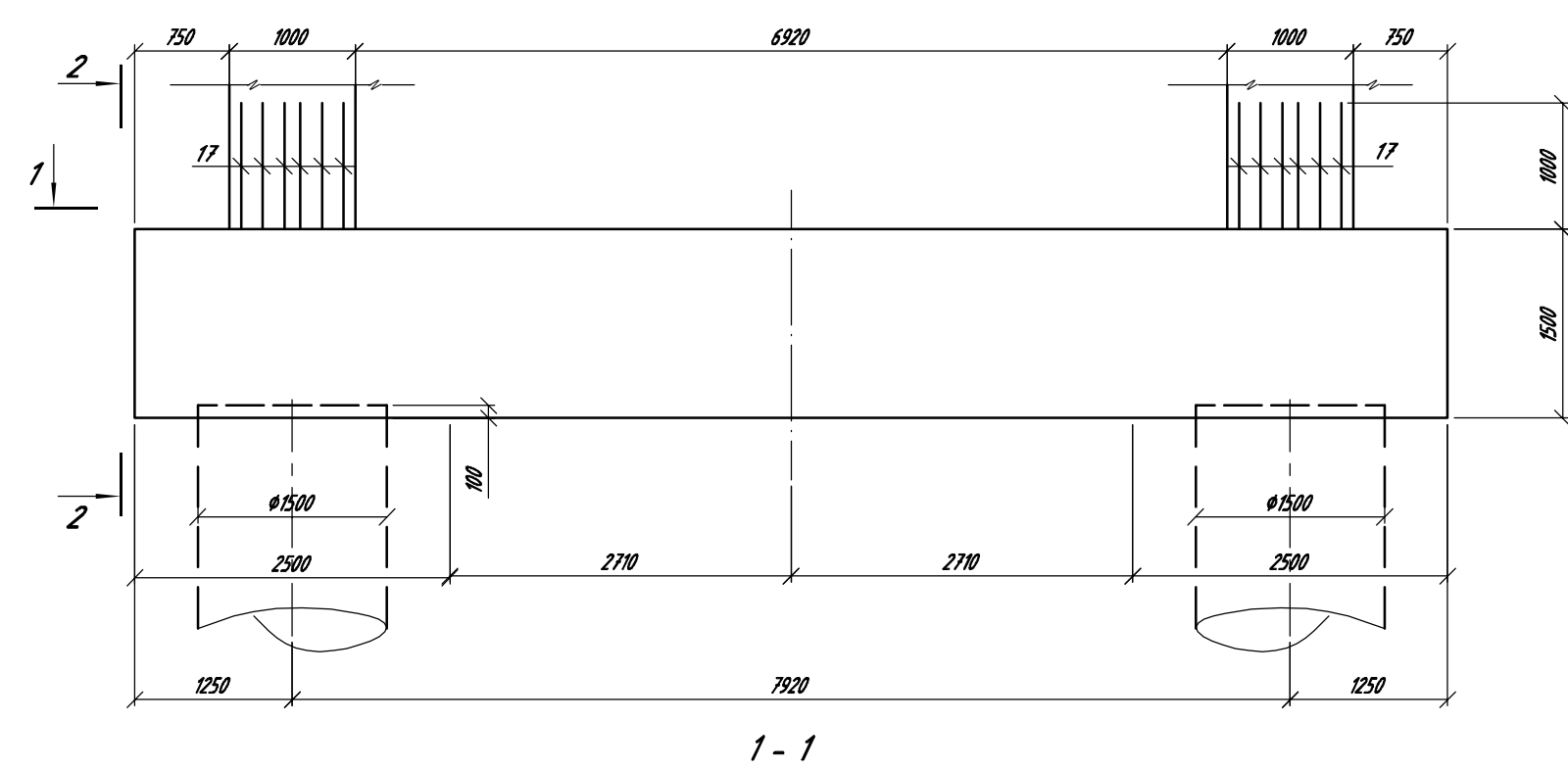
- The rods of longitudinal reinforcement (pos.1,6,8) and spiral (pos.2,3,7,9) in their places of intersection must be connected by the staggered manner using a binding wire.
- Joining the spiral (pos.2,3,7,9) must be 30Ø.
- Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).
- Concrete must be corresponds to BS 8500-1 and BS 8500-2 (in accordance with technical specification).
- Welding points must be corresponds to BS 7123 (in accordance with technical specification).

ALT-PK 65-08-121-04-K		Construction of Samredis - Grigoleti road section of E-60 km 0+000 - km 11+500		
Proj. Manag.	A. Valukin	Stage	WD	1
Checked by	M. Garudalaya	Sheet	1	1
Exec. by	R. Garudalaya	Bored pile structure of abutment		
		"Road Building" Altcom LLC		

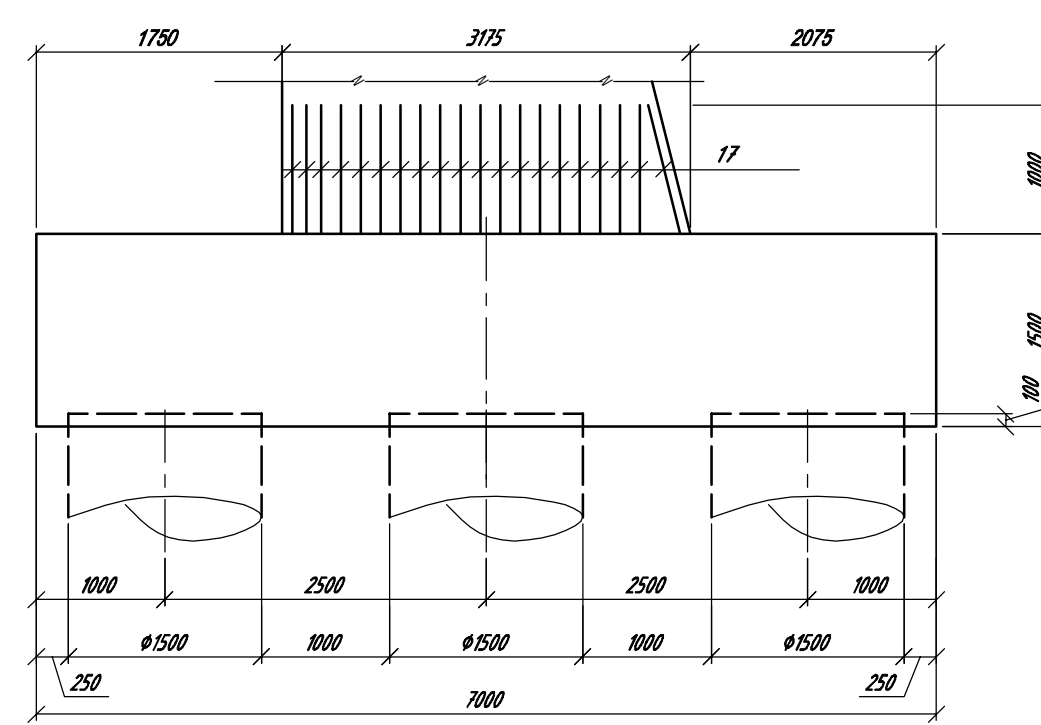




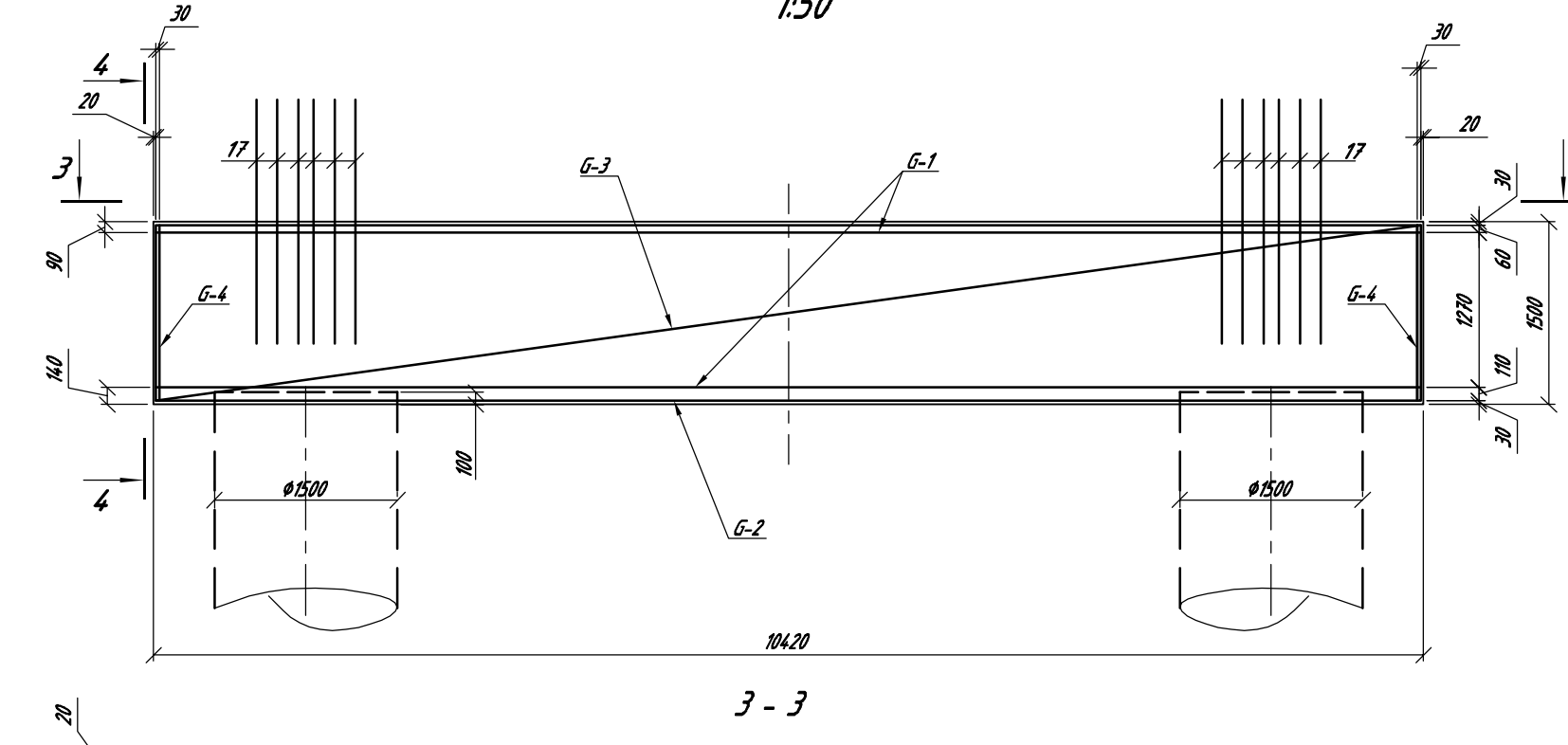
Falsework diagram
1:50



2 - 2



Reinforcement diagram
1:50

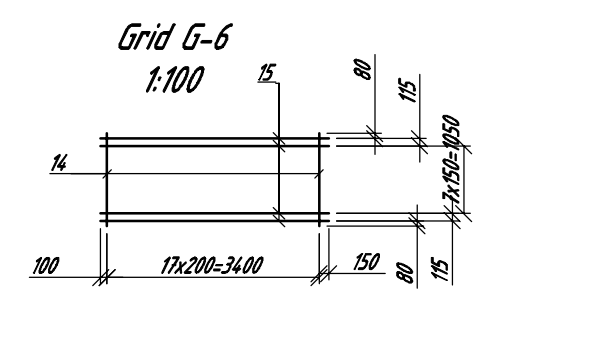
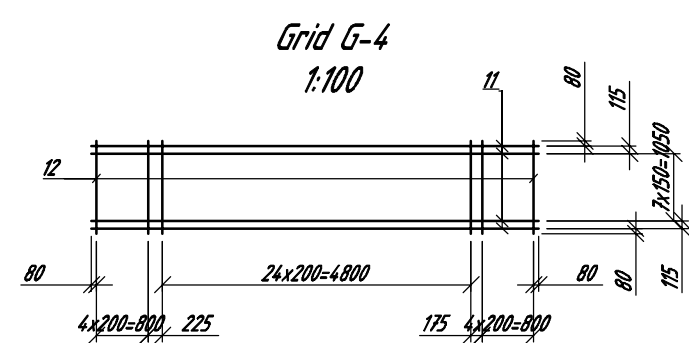
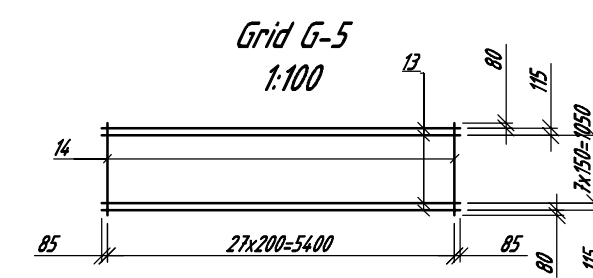
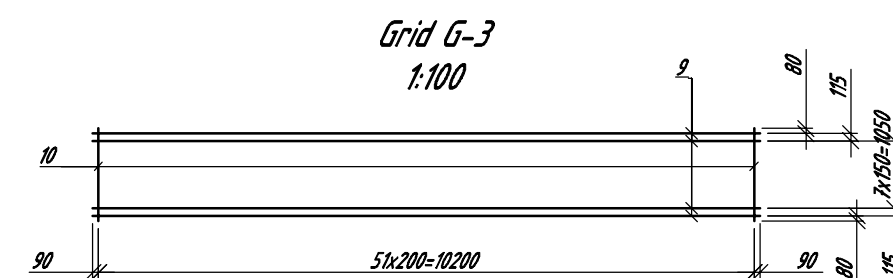
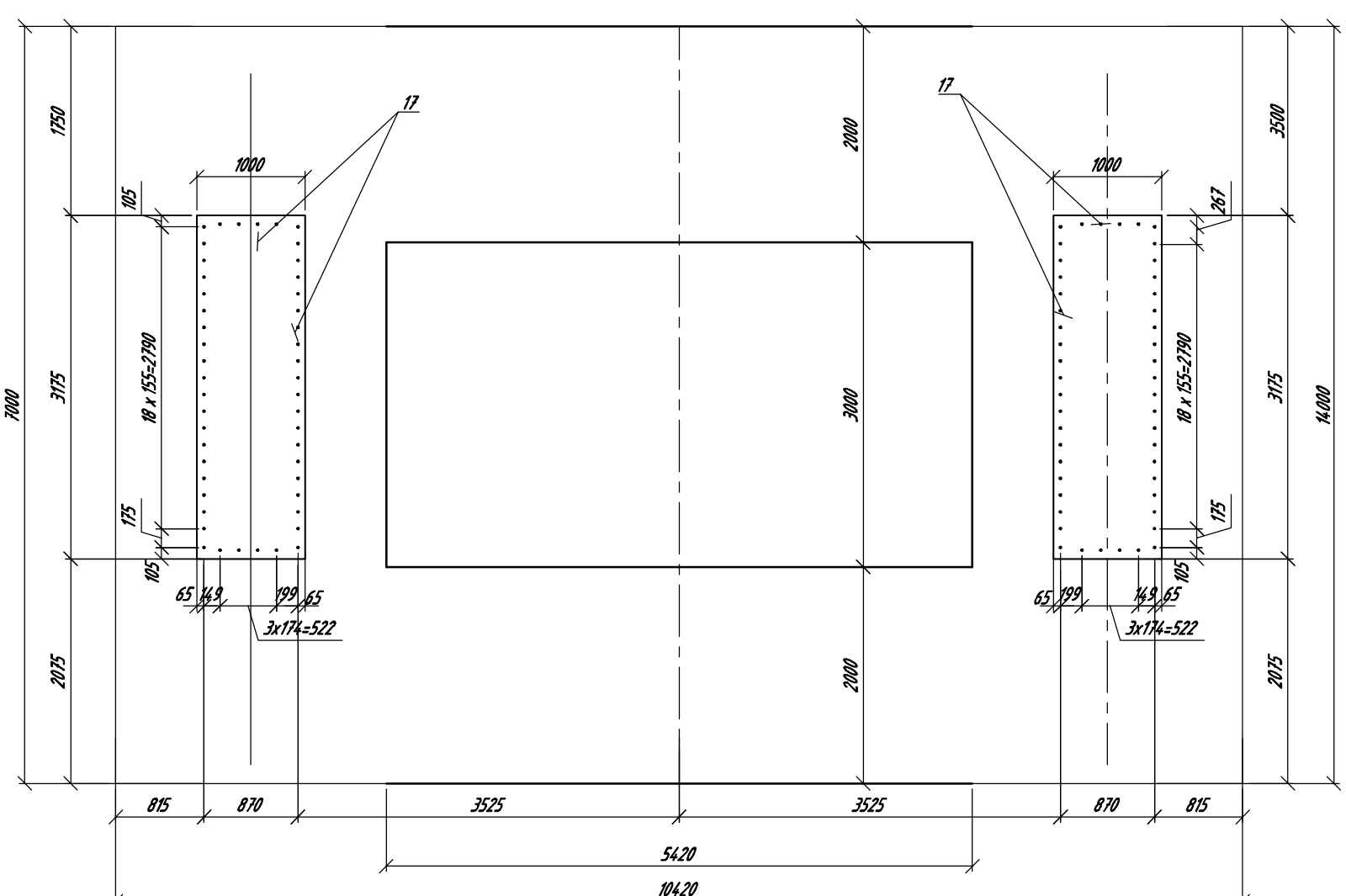


Register of steel consumption per element, kg

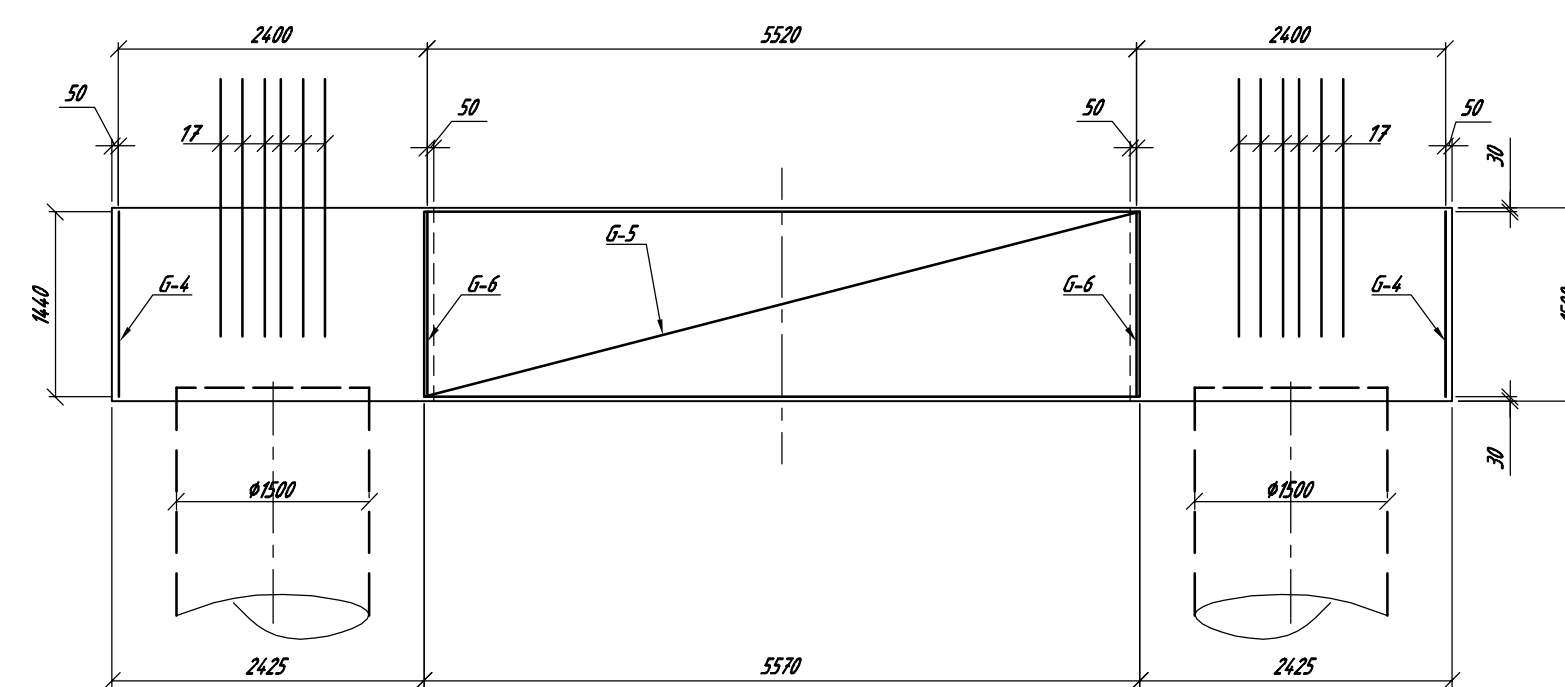
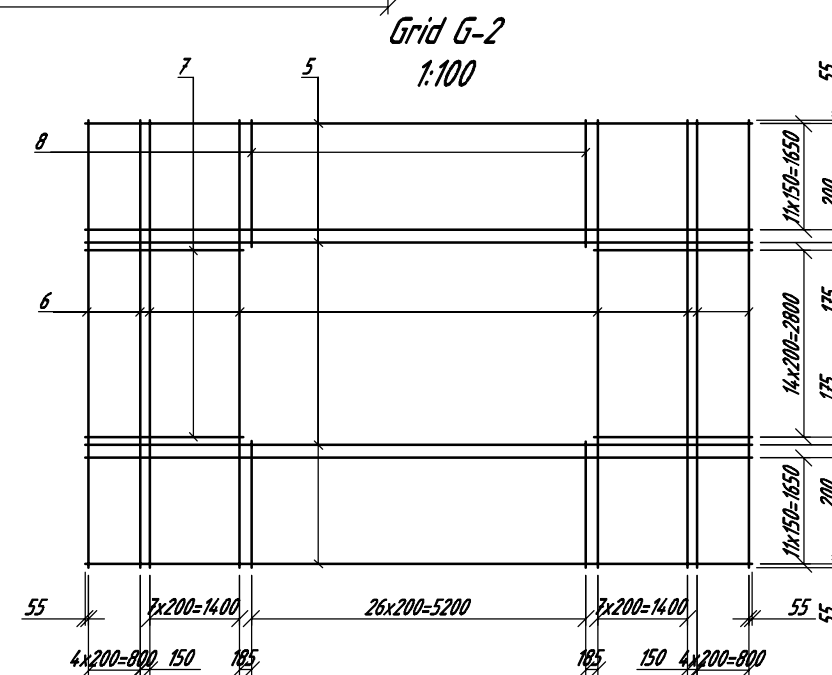
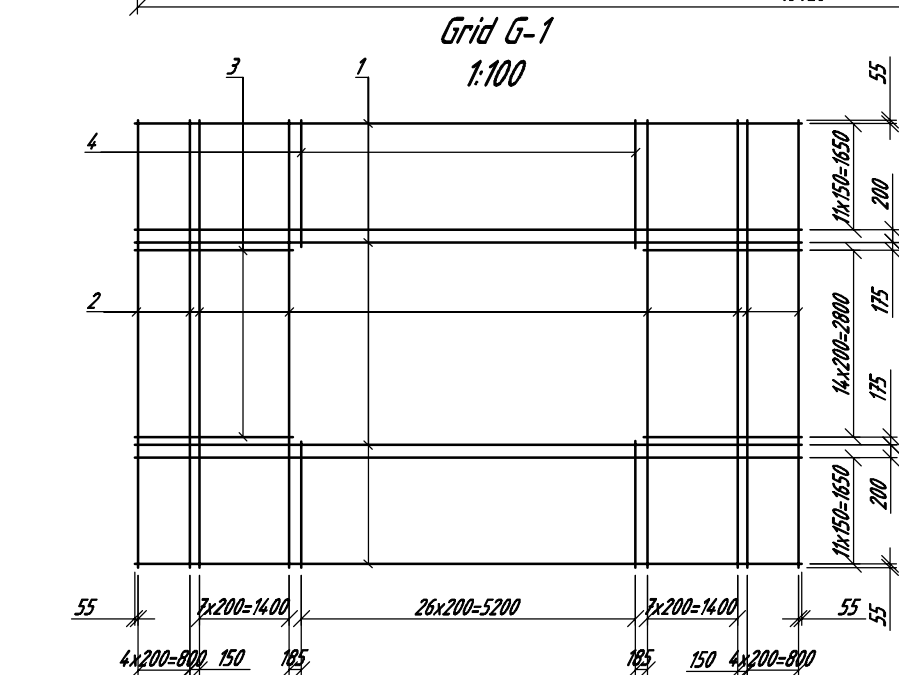
Mark of element	Reinforcement			Total
	BS 4449:2005 (BS500B)			
	Ø8	Ø16	Ø25	
RF-1	233.88	1445.68	5625.12	7304.68

Specification of element, kg

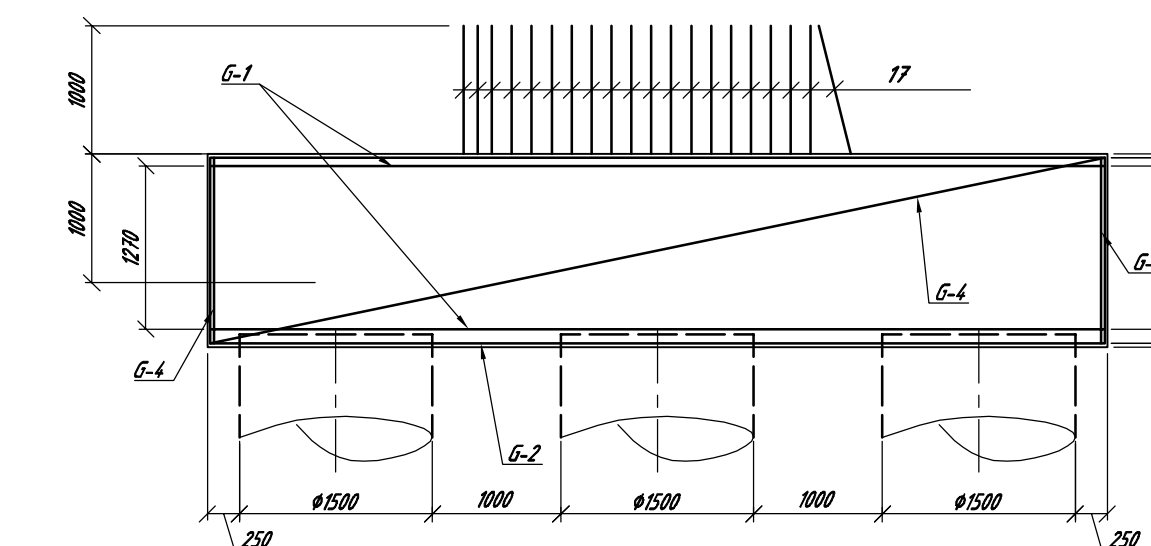
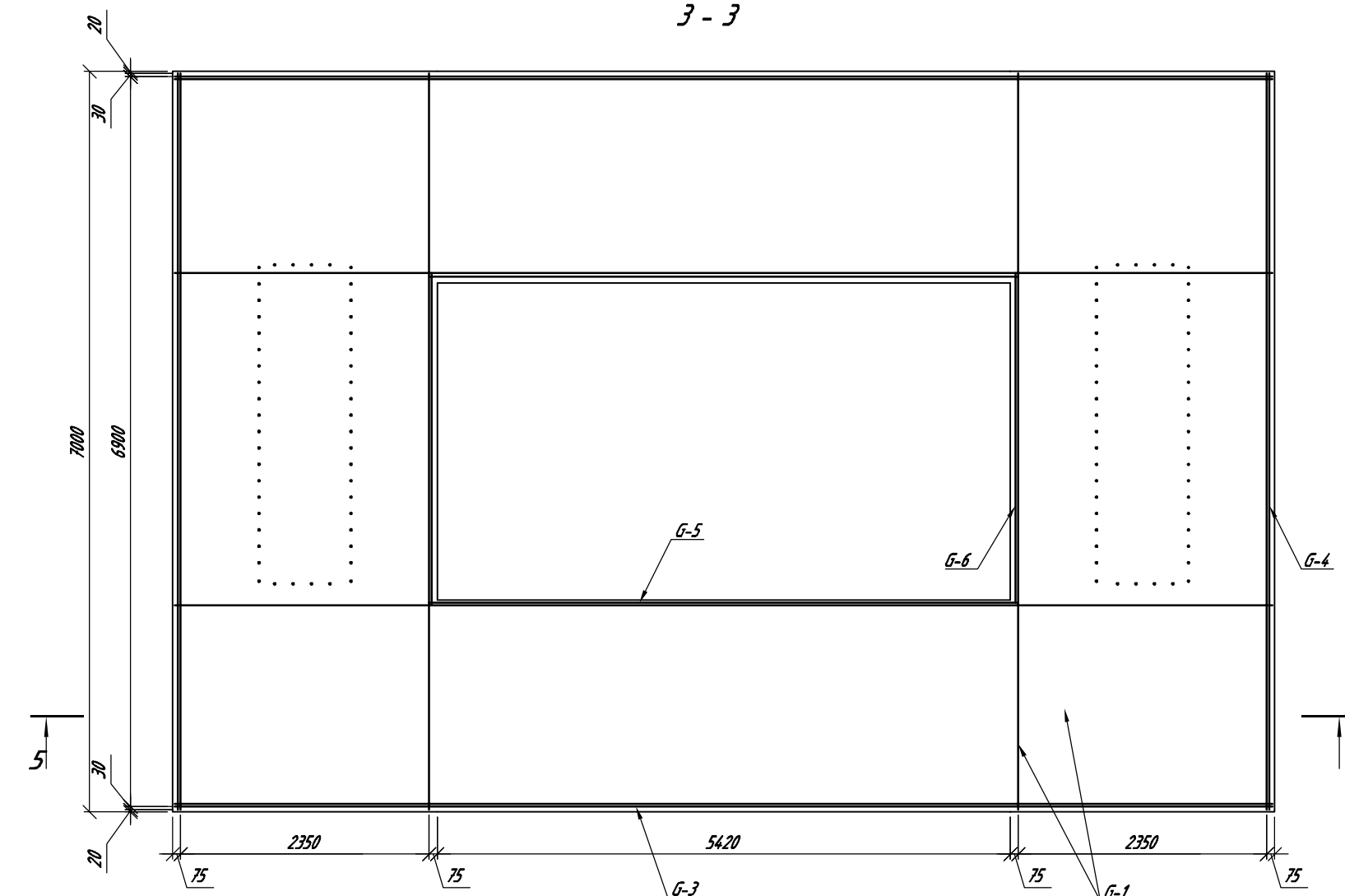
Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
Prefabricated units				
G-1	Grid G-1	2	2427.56	4855.12
1	Ø25 B 500 B BS 4449:2005, L=10380	26	39.96	1038,96
2	Ø25 B 500 B BS 4449:2005, L=6960	26	26.80	696,80
3	Ø25 B 500 B BS 4449:2005, L=2460	30	9.47	284,10
4	Ø25 B 500 B BS 4449:2005, L=1960	54	7.55	407,70
G-2	Grid G-2	1	233.88	233.88
5	Ø8 B 500 B BS 4449:2005, L=10380	26	4.10	82,00
6	Ø8 B 500 B BS 4449:2005, L=6960	26	2.75	71,50
7	Ø8 B 500 B BS 4449:2005, L=2460	30	0.97	38,80
8	Ø8 B 500 B BS 4449:2005, L=1960	54	0.77	41,58
G-3	Grid G-3	2	282.56	565.12
9	Ø16 B 500 B BS 4449:2005, L=10380	10	16.40	164,00
10	Ø16 B 500 B BS 4449:2005, L=1440	52	2.28	118,56
G-4	Grid G-4	2	189.80	379,60
11	Ø16 B 500 B BS 4449:2005, L=6960	10	11.00	110,00
12	Ø16 B 500 B BS 4449:2005, L=1440	35	2.28	79,80
G-5	Grid G-5	2	151.84	303,68
13	Ø16 B 500 B BS 4449:2005, L=5570	10	8.80	88,00
14	Ø16 B 500 B BS 4449:2005, L=1440	28	2.28	63,84
G-6	Grid G-6	2	98.64	197,28
15	Ø16 B 500 B BS 4449:2005, L=3650	10	5.76	57,60
16	Ø16 B 500 B BS 4449:2005, L=1440	18	2.28	41,04
Details				
17	Ø25 B 500 B BS 4449:2005, L=2000	100	7.70	770,00
Other materials				
18	Concrete C30/37, XC-2, XD-3, XF-1, S4, D22			85.02 m³



5 - 5
(Grids G-1, G-2 conditionally is not shown)
1:50



4 - 4



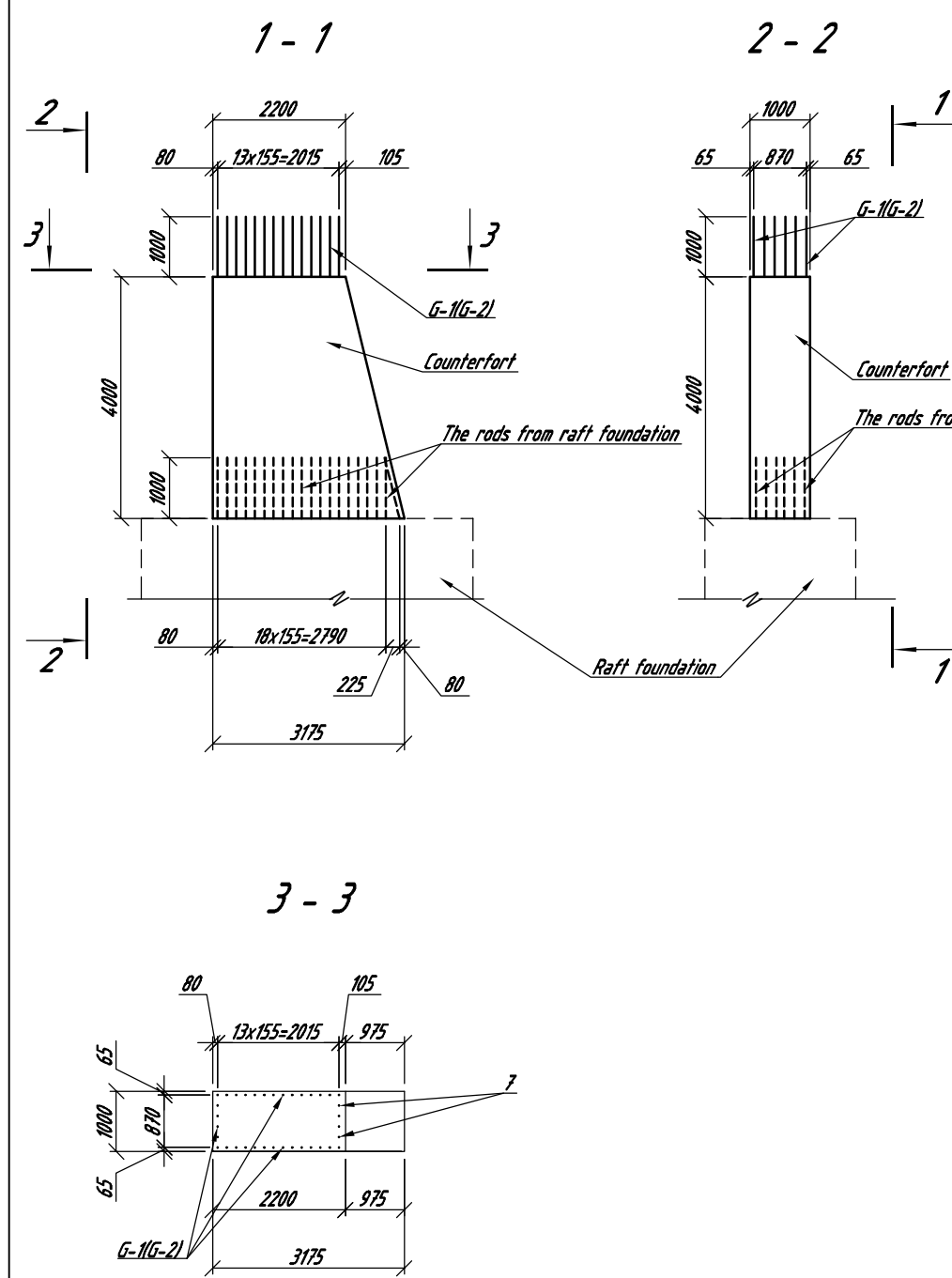
1. Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).
2. Concrete must be corresponds to BS 8500-1 and BS 8500-2 (in accordance with technical specification).
3. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

AL-PR 65-88-121-05		Construction of Samredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500			
Proj. Manag.	A. Volukin	Overpass PK 65-88	Stage	Sheet	Sheets
Checked by	H. Garabinskaya		WD	1	1
Exec. by	R. Garpolyuk	Raft foundation of abutment	"Road Building "Altcom" LLC		

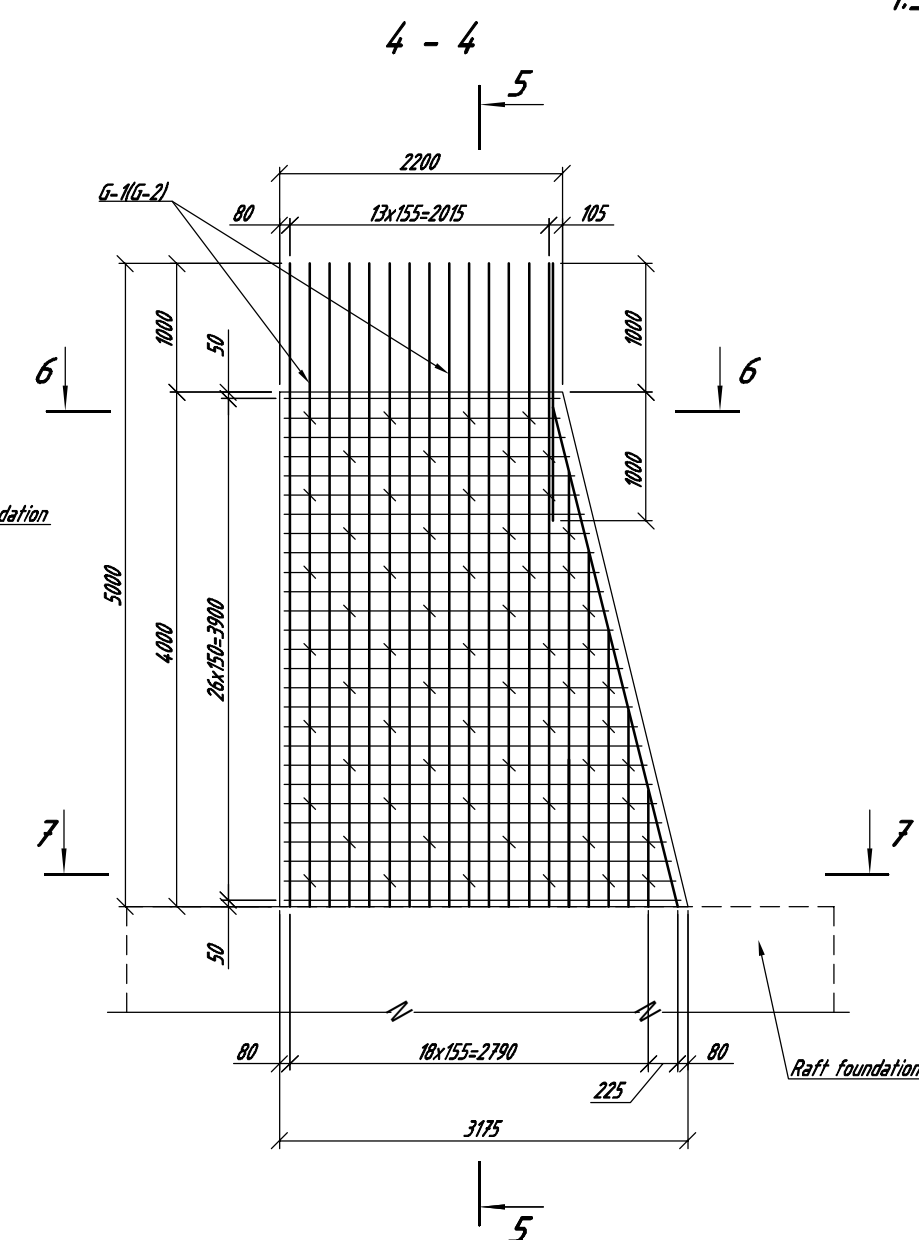




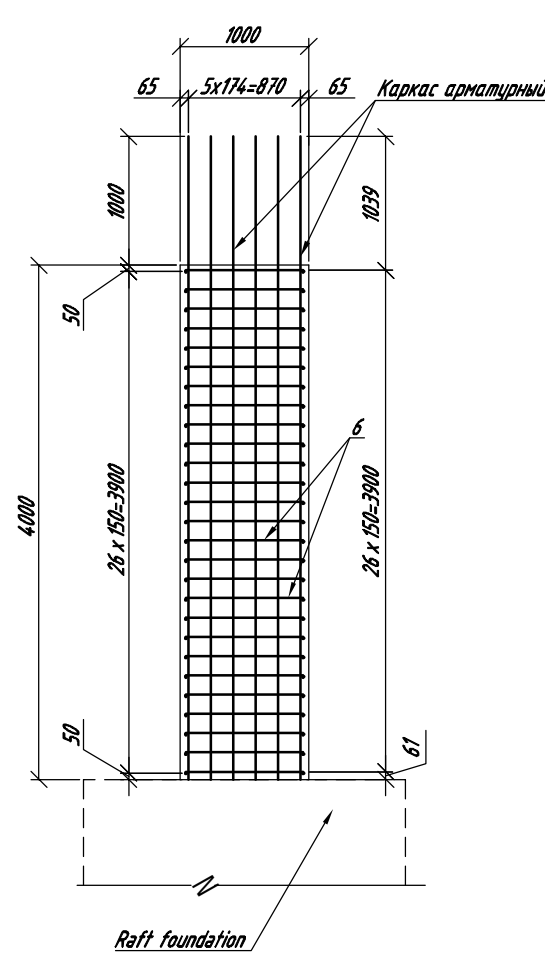
Falsework diagram
1:100



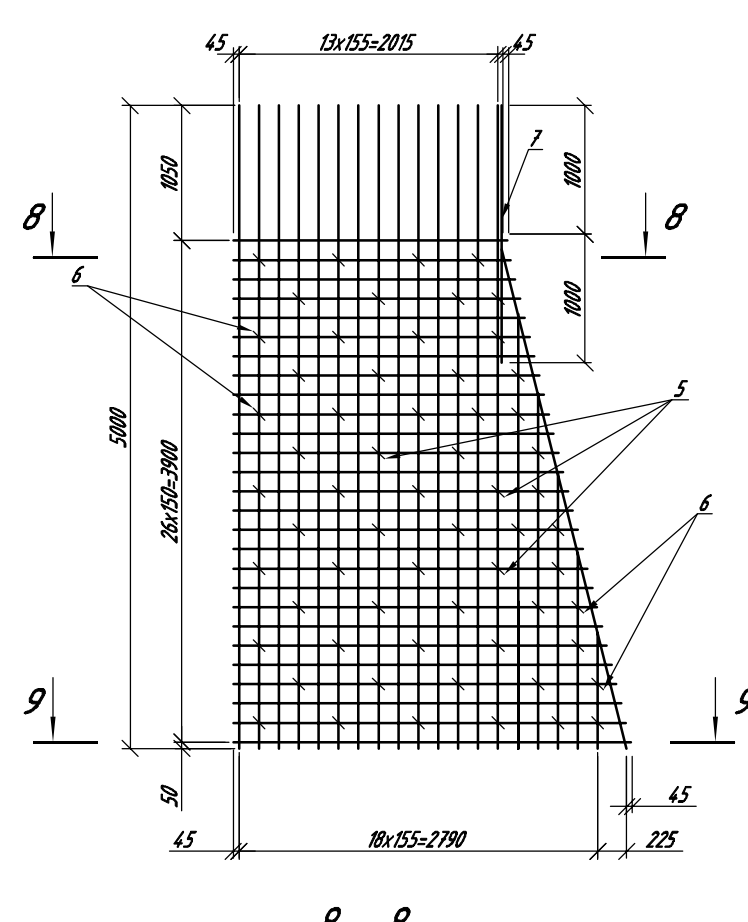
Reinforcement diagram
1:50



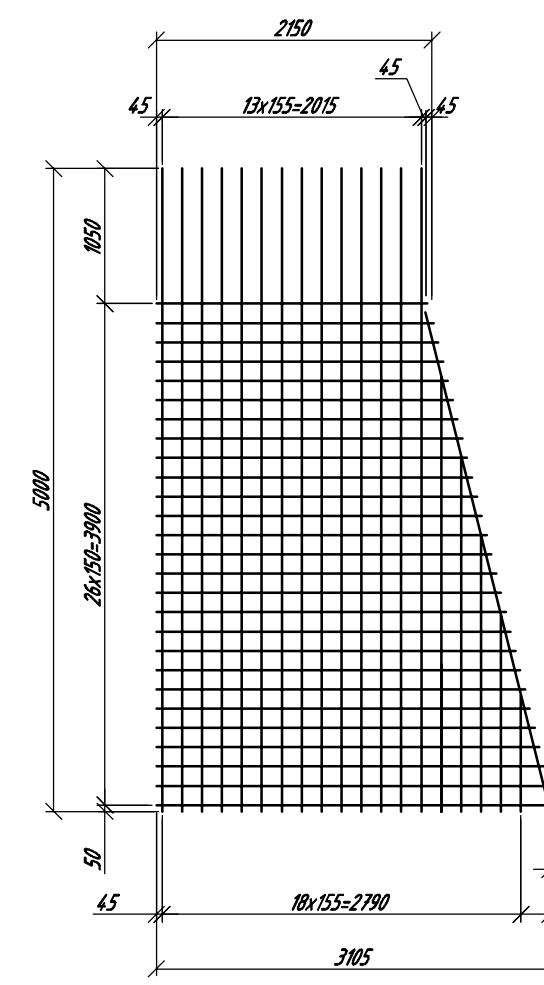
5-5



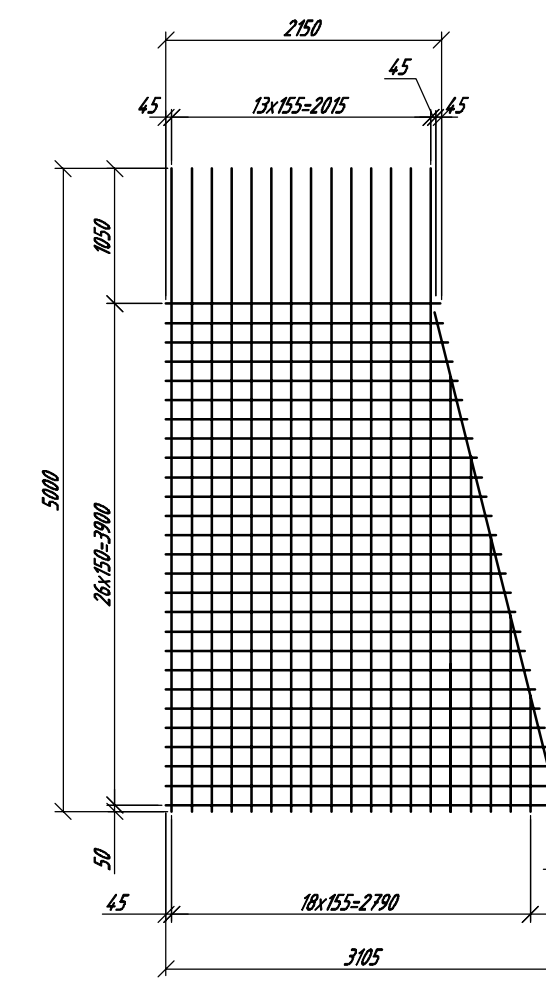
Reinforcement cage
1:50



Grid G-1
1:50



Grid G-2
1:50



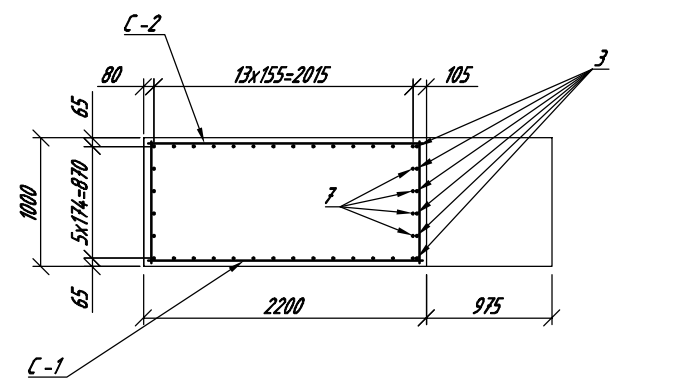
Register of steel consumption per element, kg

Mark of element	Reinforcement			Total
	BS 4449:2005 (B500B)	Ø8	Ø12	
K-1	17,22	200,72	821,38	1039,32

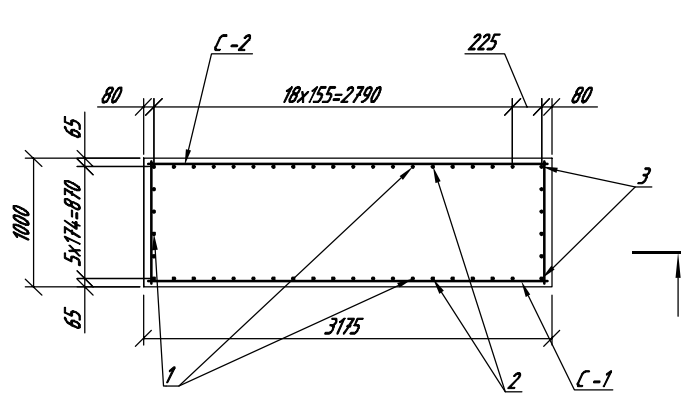
Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<i>Prefabricated units</i>				
G-1	Grid G-1	1	389,21	
1	Ø25 B500B BS 4449:2005, L=5000	14	19,25	269,50
2	Ø25 B500B 4449:2005, 902-3380 installation step 620 Layer=2141	5	8,23	41,15
3	Ø25 B500B BS 4449:2005, L=3995	1	15,38	15,38
4	Ø12 B500B 4449:2005, 2150-3105 installation step 37 Layer=2628	27	2,34	63,18
G-1	Grid G-1	1	389,21	
1	Ø25 B500B BS 4449:2005, L=5000	14	19,25	269,50
2	Ø25 B500B 4449:2005, 902-3380 installation step 620 Layer=2141	5	8,23	41,15
3	Ø25 B500B BS 4449:2005, L=3995	1	15,38	15,38
4	Ø12 B500B 4449:2005, 2120-3030 installation step 38 Layer=2575	27	2,34	63,18
<i>Details</i>				
1	Ø25 B500B BS 4449:2005, L=5000	4	19,25	77,00
3	Ø25 B500B BS 4449:2005, L=3995	4	15,38	61,52
5	Ø8 B500B BS 4449:2005, L=1070	41	0,42	17,22
6	Ø12 B500B BS 4449:2005, L=1615	52	1,43	74,36
7	Ø25 B500B BS 4449:2005, L=2000	4	7,7	30,80
<i>Other materials</i>				
	Concrete C30/37, XC-2, XD-3, XF-1, S4, D22			10,75 m³

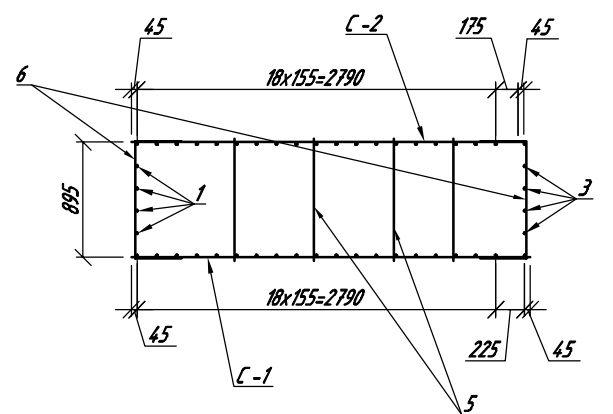
6-6
(pos. 5,6 conditionally is not shown)



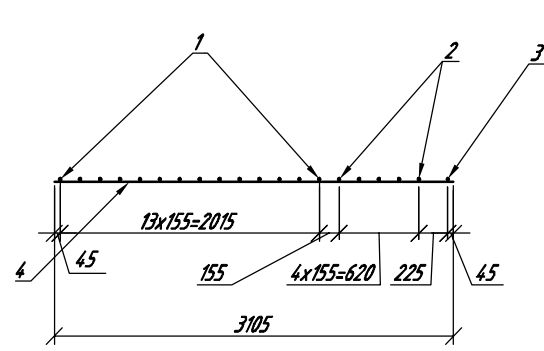
7-7
(pos. 5,6 conditionally is not shown)



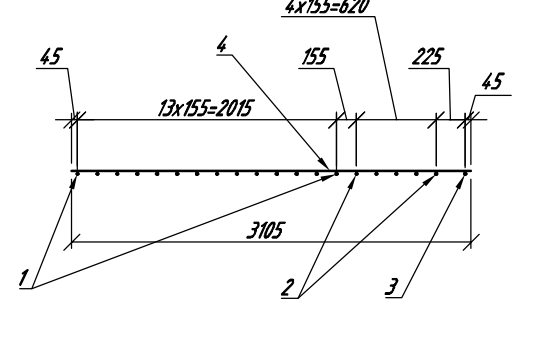
9-9



10-10



11-11



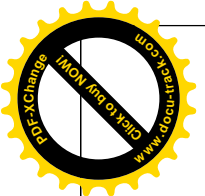
Register of items

Pos.	Sketch	Pos.	Sketch
5		6	

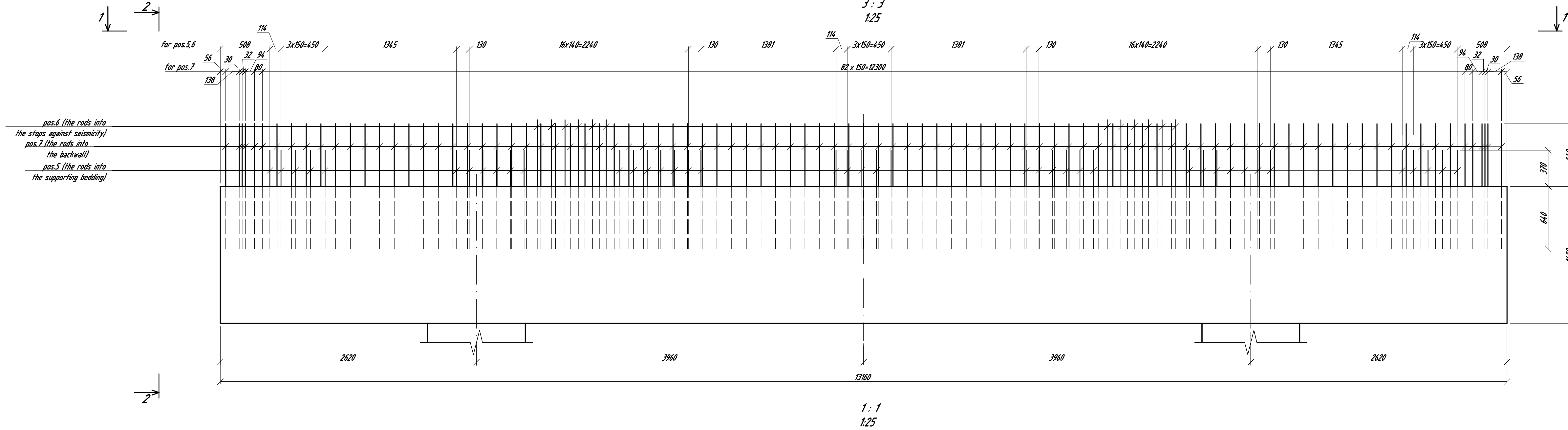
- The order of the reinforcement cage
- Place the grid G-1 and G-2 in the design position.
 - Secure the grid G-1 and G-2 by pins of pos.6 in the space cage.
 - Set the pin of pos.5 in a staggered manner.
 - The rods of pos. 7 set in the design position vertically.

ALT-PR 65-08-121-06		Construction of Samtredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500			
AE	R. Harlander	Overpass PK 65-08	Stage	Sheet	Sheets
Proj. Manag.	A. Vidukin		WD	1	1
Checked by	H. Garabinskaya		Counterfort structure of abutment		
Exec. by	P. Garpolyuk		"Road Building 'Altcom' LLC		

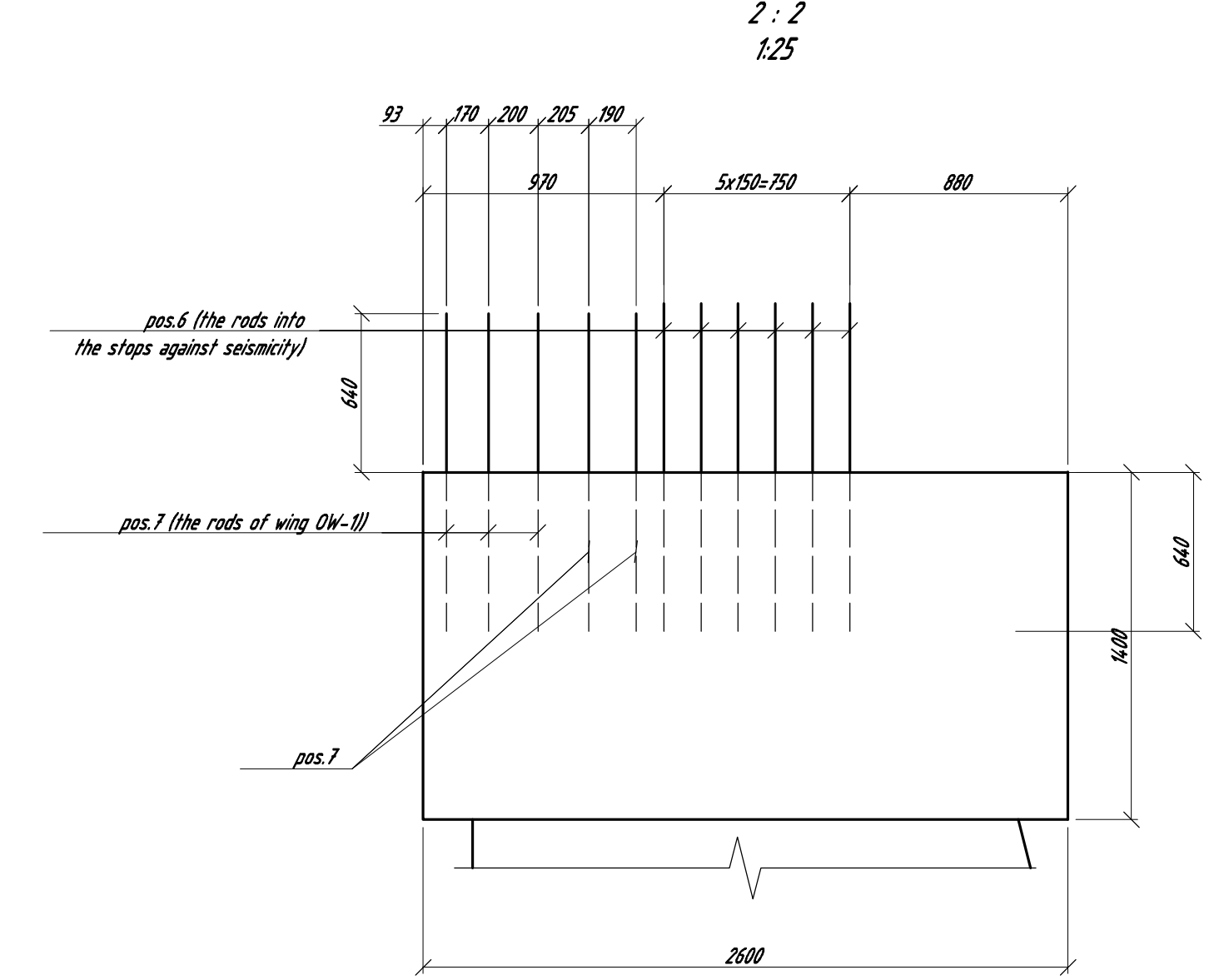




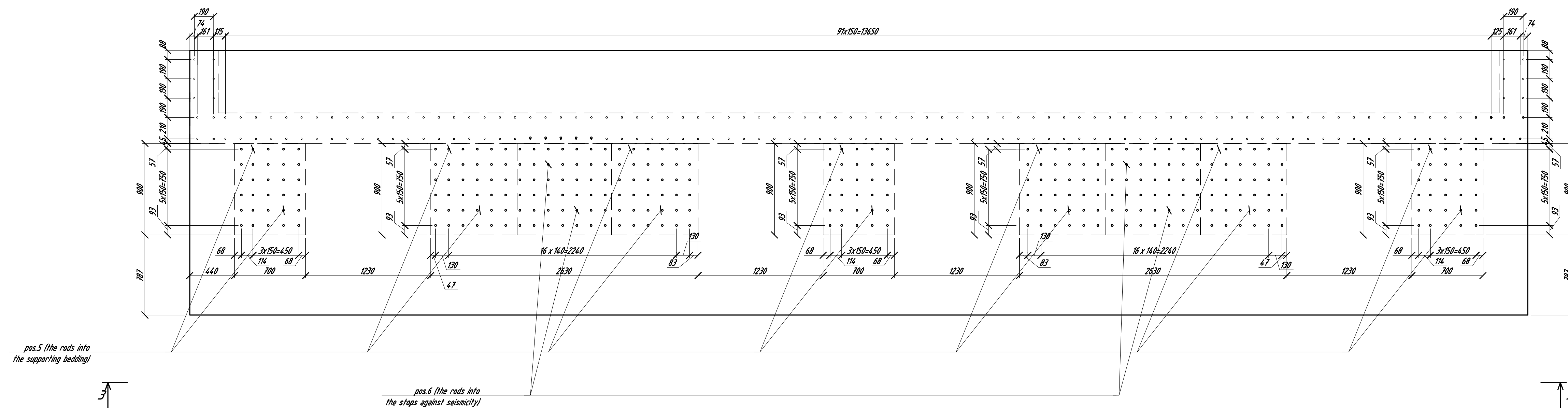
Falsework diagram
3 : 3
1:25



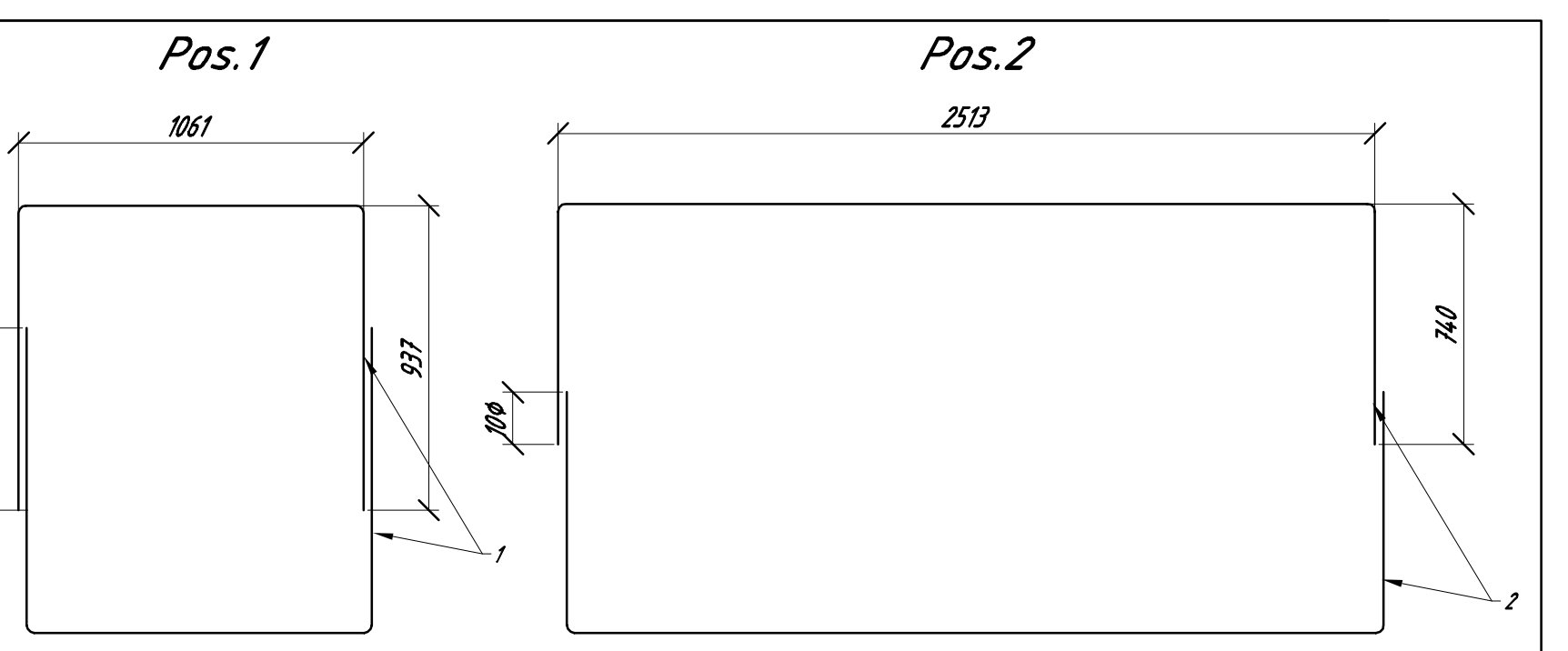
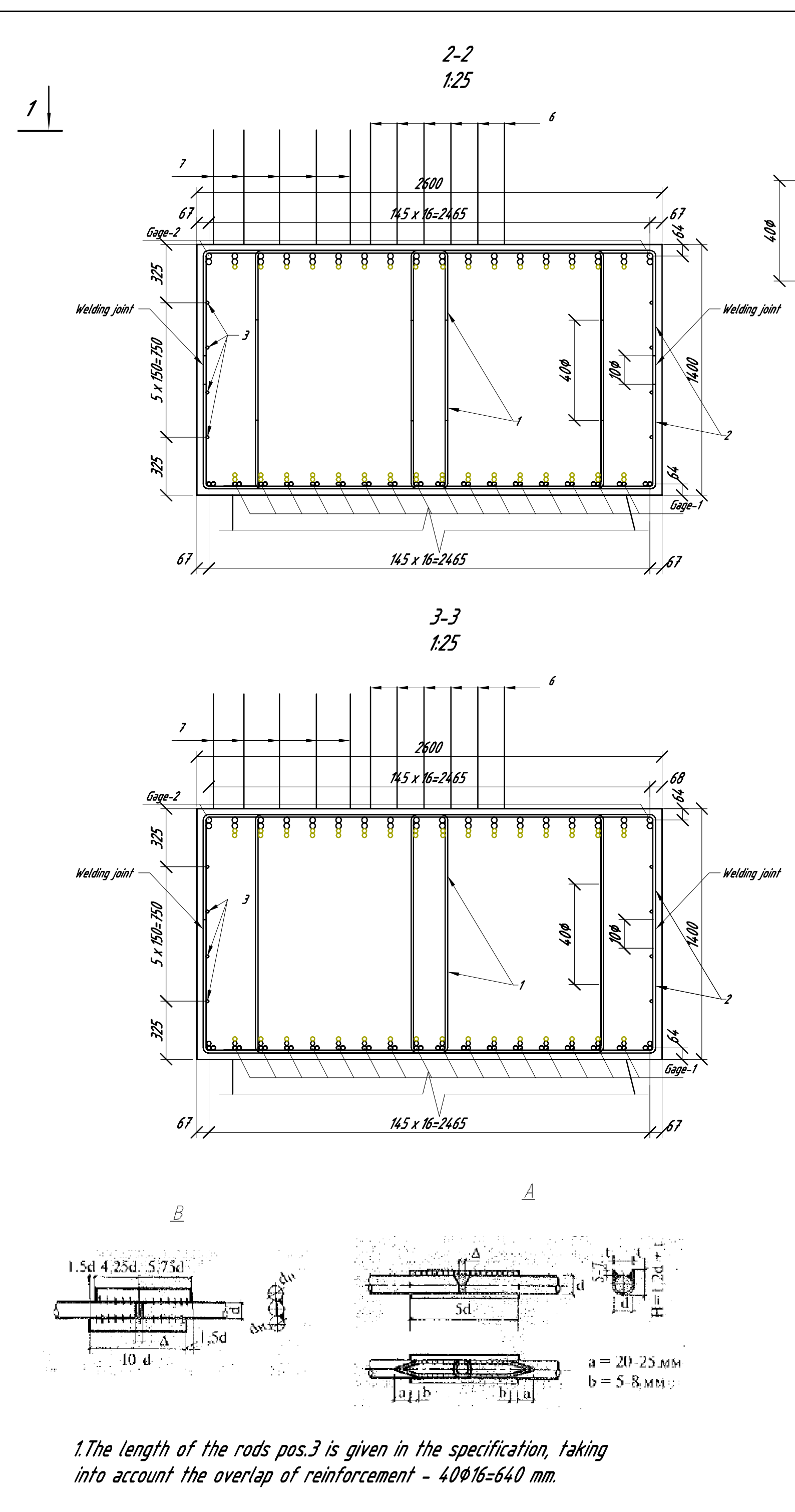
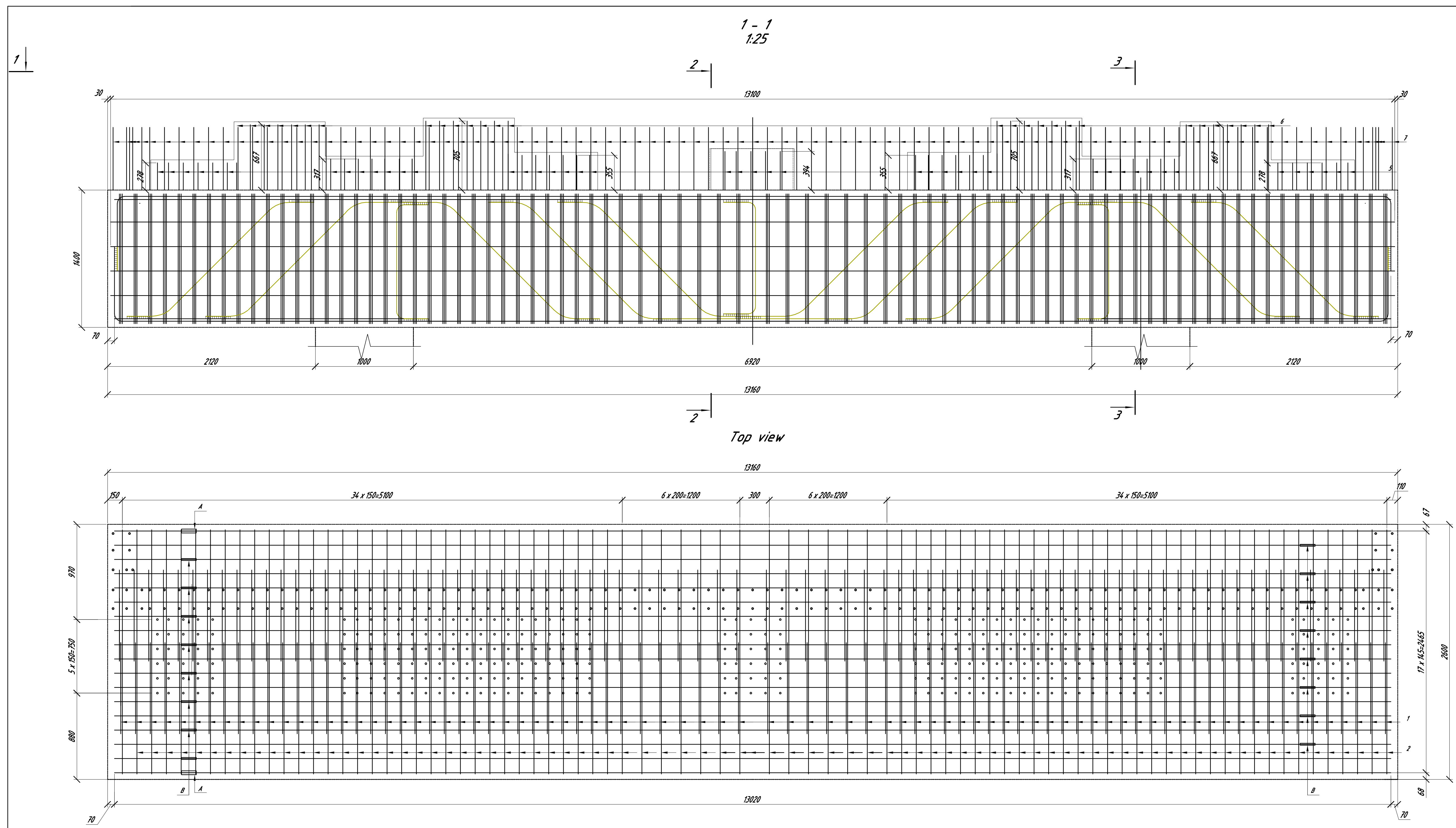
2 : 2
1:25



91x150=13650



ALT-PK 65+88-121-07-K		Construction of Samredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500		
RE	R.Harlander	Stage	Sheet	Sheets
Proj.Manag.	A. Valiukin	WD	1	3
Checked by	H.Garobinskaya	Crossbeam structure of abutment		
Exec. by	R.Garpolyuk	"Road Building "Altcom" LLC		



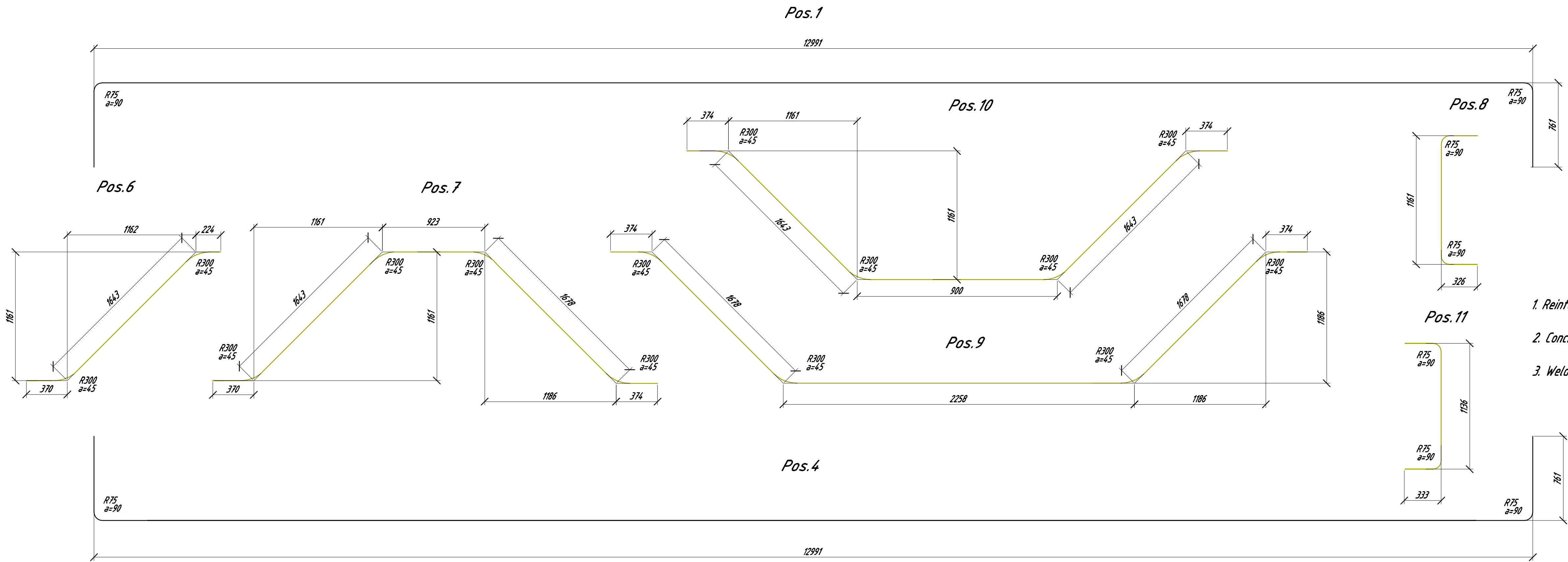
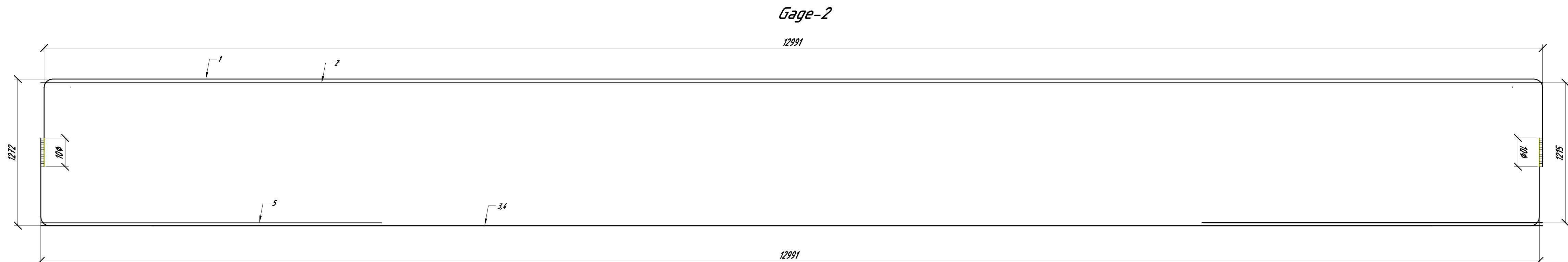
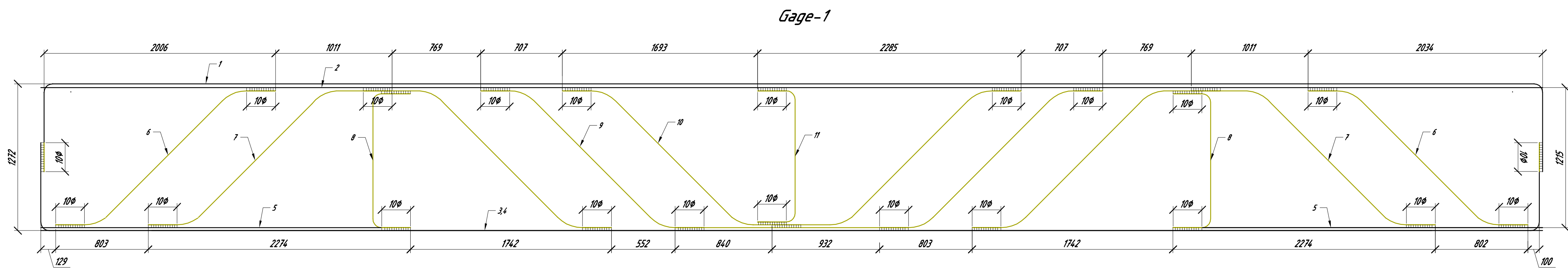
Register of steel consumption per element, kg

Mark of element	Reinforcement				Total
	BS4449:2005 (B500B)				
	φ14	φ16	φ25	φ32	
CB-1	1263.80	2230.80	4237.14	3127.14	10858.88

Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<i>Prefabricated units</i>				
C-1	Cage C-1	16	422.46	6759.36
C-2	Cage C-2	2	302.46	604.92
<i>Details</i>				
1	φ14 B500B BS 4449:2005, L=2935 mm	356	3.55	1263.80
2	φ16 B500B BS 4449:2005, L=3993 mm	178	6.30	1121.40
3	φ16 B500B BS 4449:2005, L=13740 mm	8	21.70	173.60
5	φ16 B500B BS 4449:2005, L=1010 mm	234	1.60	374.40
6	φ16 B500B BS 4449:2005, L=1320 mm	84	2.09	173.56
7	φ16 B 500 B BS 4449:2005, L=1280 mm	192	2.02	387.84
<i>Other materials</i>				
8	Concrete C30/37, XC-2, XD-3, XF-1, S4, D22			47,9 m ³

ALT-PK 65+88-121-07-K		Construction of Samredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500		
Proj. Manag.	A. Valukin	Stage	WD	3
Checked by	H. Gorobinskaya	Sheet	2	3
Exec. by	R. Garpolyuk	Crossbeam structure of abutment		"Road Building "Altcom" LLC



Register of steel consumption per element, kg

Mark of element	Reinforcement		Total
	BS4449:2005 (B500B)		
	Ø25	Ø32	
C-1	248.73	173.73	422.46
C-2	128.73	173.73	302.46

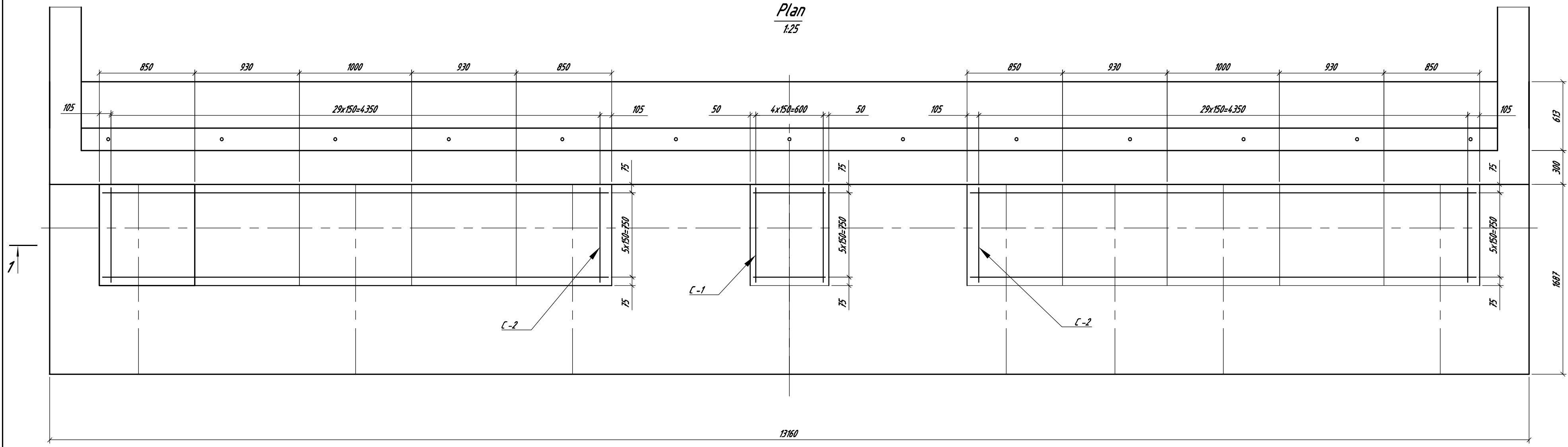
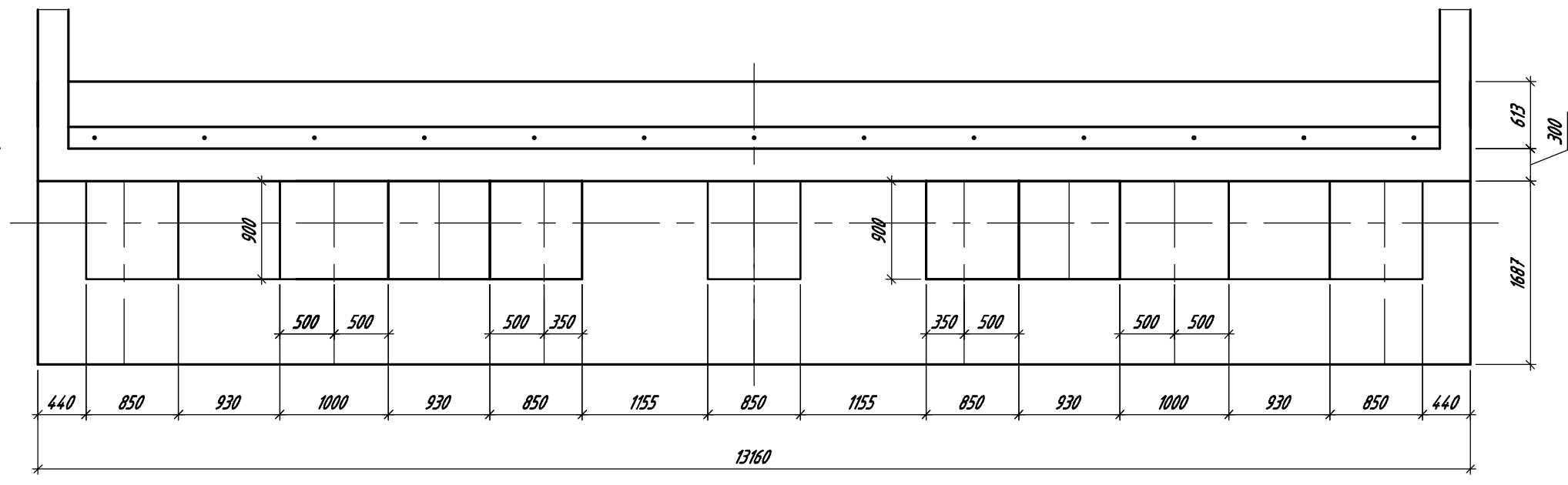
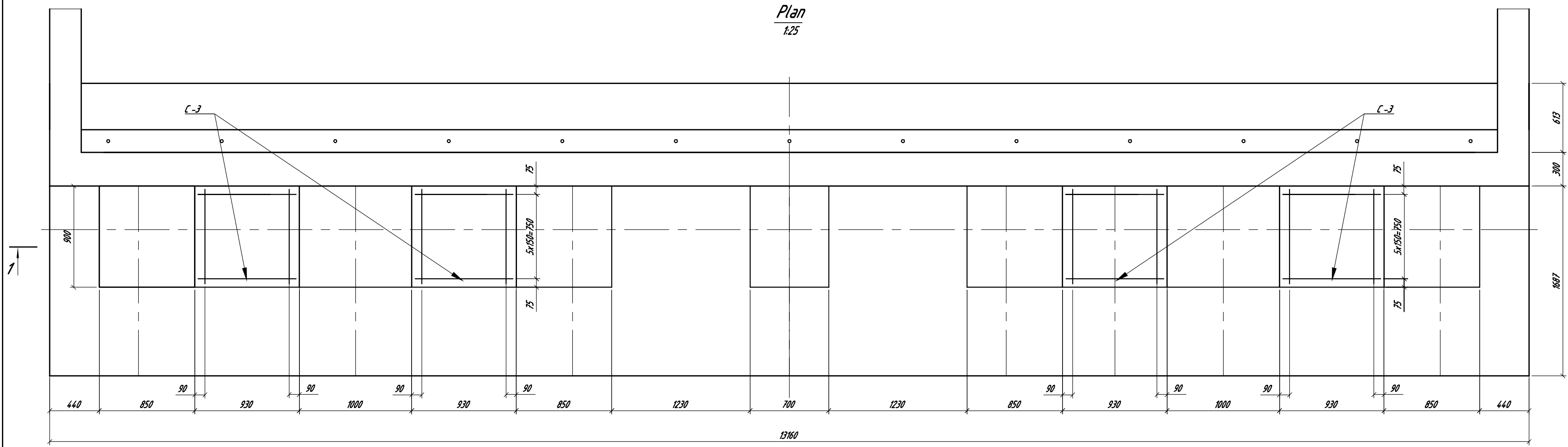
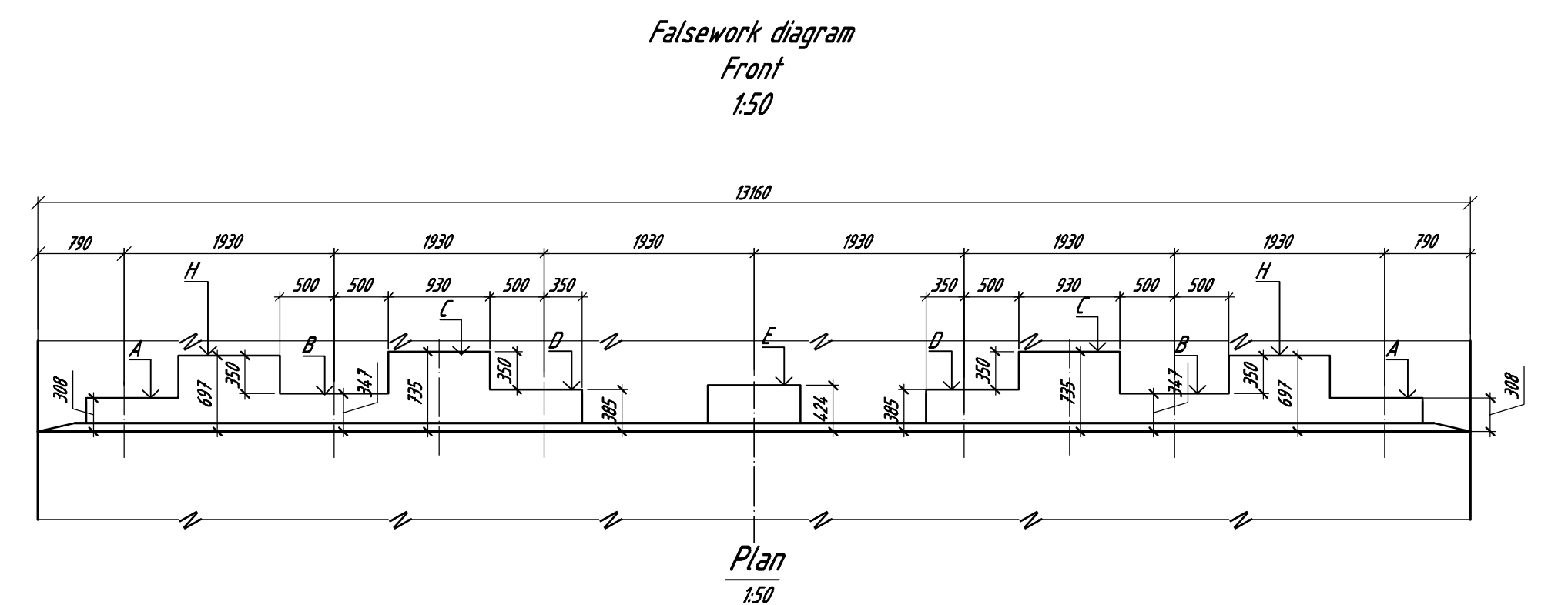
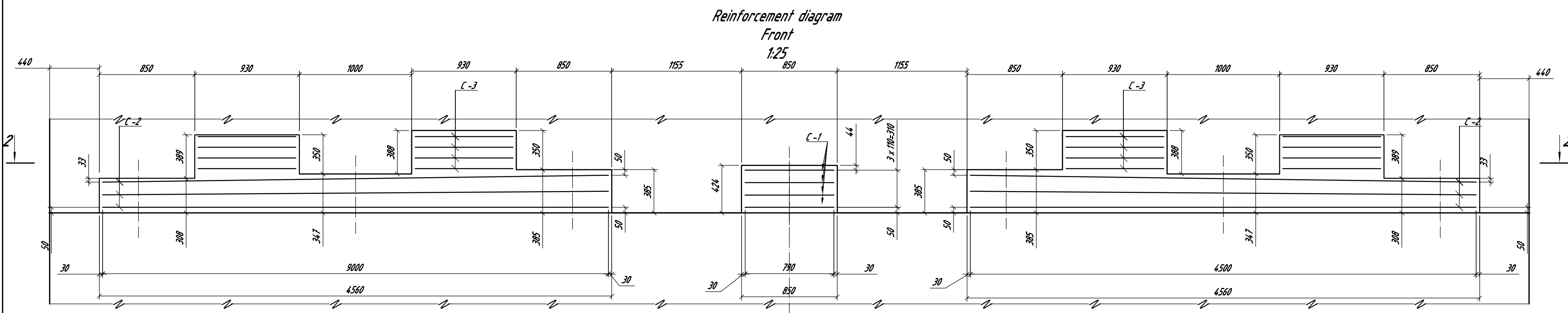
Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<i>Prefabricated units</i>				
C-1	Cage C-1	1	422.46	422.46
1	Ø32 B500B BS 4449:2005, L=14513 mm	1	91.58	91.58
2	Ø32 B500B BS 4449:2005, L=13020 mm	1	82.15	82.15
3	Ø25 B500B BS 4449:2005, L=14513 mm	1	55.87	55.87
4	Ø25 B500B BS 4449:2005, L=13020 mm	1	50.12	50.12
5	Ø25 B500B BS 4449:2005, L=2955 mm	2	11.37	22.74
6	Ø25 B500B BS 4449:2005, L=2237 mm	2	8.61	17.22
7	Ø25 B500B BS 4449:2005, L=4988 mm	2	19.20	38.40
8	Ø25 B500B BS 4449:2005, L=1813 mm	2	6.98	13.96
9	Ø25 B500B BS 4449:2005, L=6362 mm	1	24.49	24.49
10	Ø25 B500B BS 4449:2005, L=4934 mm	1	19.00	19.00
11	Ø25 B500B BS 4449:2005, L=1802 mm	1	6.93	6.93
C-2	Cage C-2	1	302.46	302.46
1	Ø32 B500B BS 4449:2005, L=14513 mm	1	91.58	91.58
2	Ø32 B500B BS 4449:2005, L=13020 mm	1	82.15	82.15
3	Ø25 B500B BS 4449:2005, L=14513 mm	1	55.87	55.87
4	Ø25 B500B BS 4449:2005, L=13020 mm	1	50.12	50.12
5	Ø25 B500B BS 4449:2005, L=2955 mm	2	11.37	22.74

1. Reinforcement must be corresponds to BS 4449 u BS 4483 (in accordance with technical specification).
2. Concrete must be corresponds to BS 8500-1 u BS 8500-2 (in accordance with technical specification).
3. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

ALT-PK 65+88-121-07-K		Construction of Samreda - Grigoleli road section of E-60 km 0 +000 - km 11 +500		
Proj.Manag.	A. Valukin	Stage	WD	3
Checked by	H. Garabinskaya	Sheet	3	3
Exec. by	R. Garpalyuk	Crossbeam structure of abutment Gage C-1,C-2		Sheets
"Road Building "Altcom" LLC				





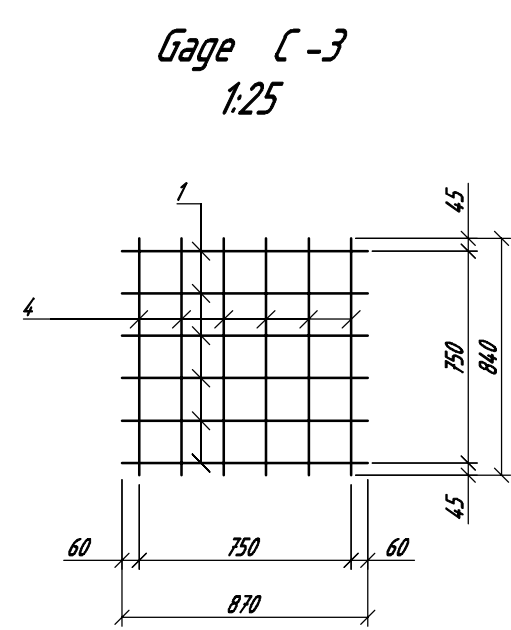
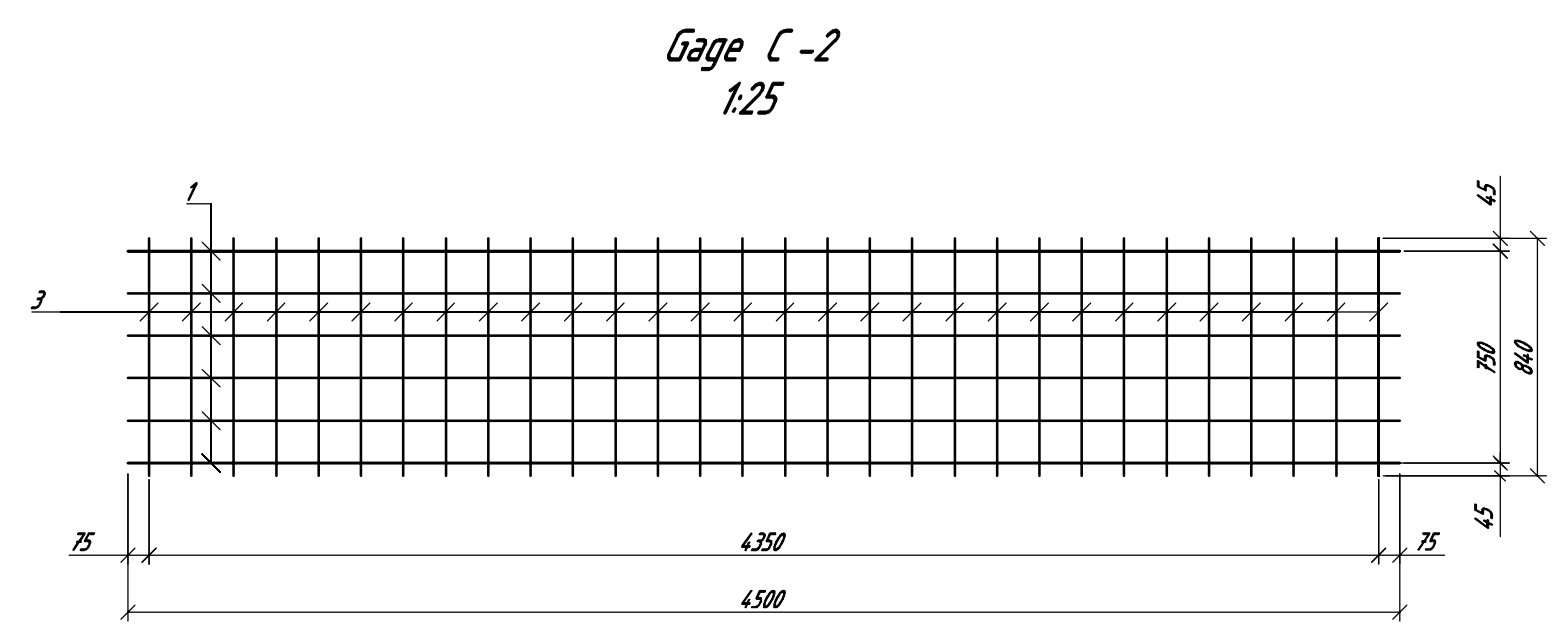
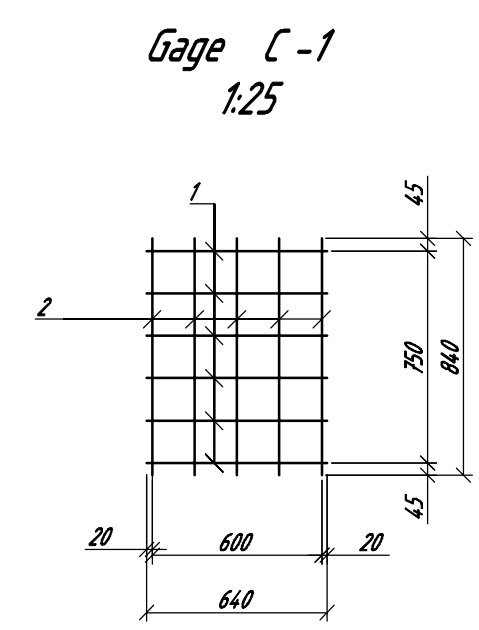
Register of steel consumption per element, kg

Mark of element	Reinforcement		Total
	BS 4449:2005 (B500B)		
	φ16	Total	
SB-1	805.40	805.40	805.4

Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
<i>Prefabricated units</i>				
G-1	Grid G-1	4	12.71	50.84
1	φ16 B 500 B BS 4449:2005, L=640	6	1.01	6.06
2	φ16 B 500 B BS 4449:2005, L=840	5	1.33	6.65
G-2	Grid G-2	6	82.56	495.36
1	φ16 B 500 B BS 4449:2005, L=4500	6	7.11	42.66
3	φ16 B 500 B BS 4449:2005, L=840	30	1.33	39.90
G-3	Grid G-3	16	16.20	259.20
1	φ16 B 500 B BS 4449:2005, L=870	6	1.37	8.22
4	φ16 B 500 B BS 4449:2005, L=840	6	1.33	7.98
<i>Other materials</i>				
5	Concrete C30/37, XC-2, XD-3, XF-1, S4, D22			4.47 m ³

Pos.	A	H	B	C	D	E
Abutment №1,2	26.092	27.281	26.921	27.319	26.969	27.008



ALT-PK 65-88-121-08

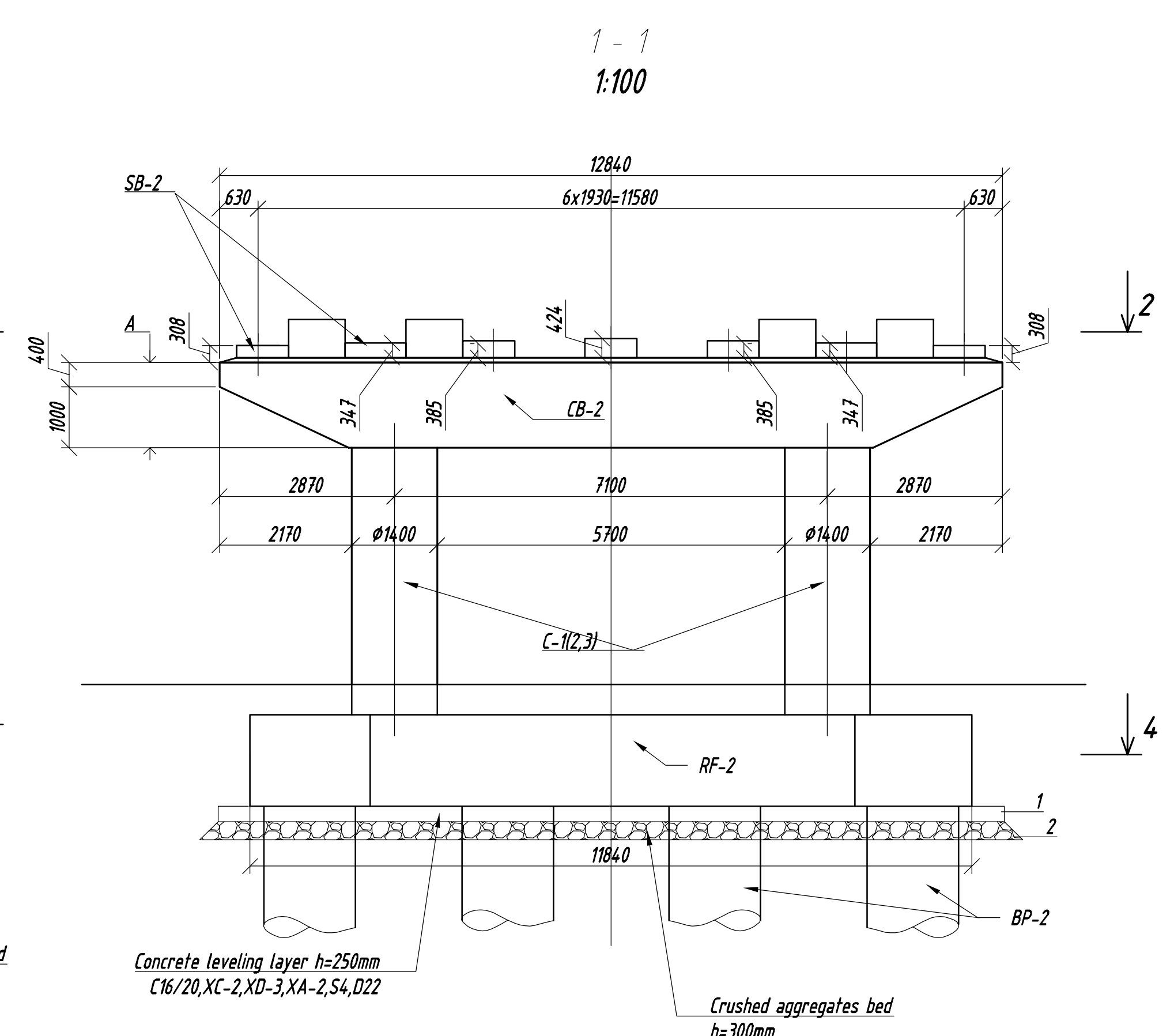
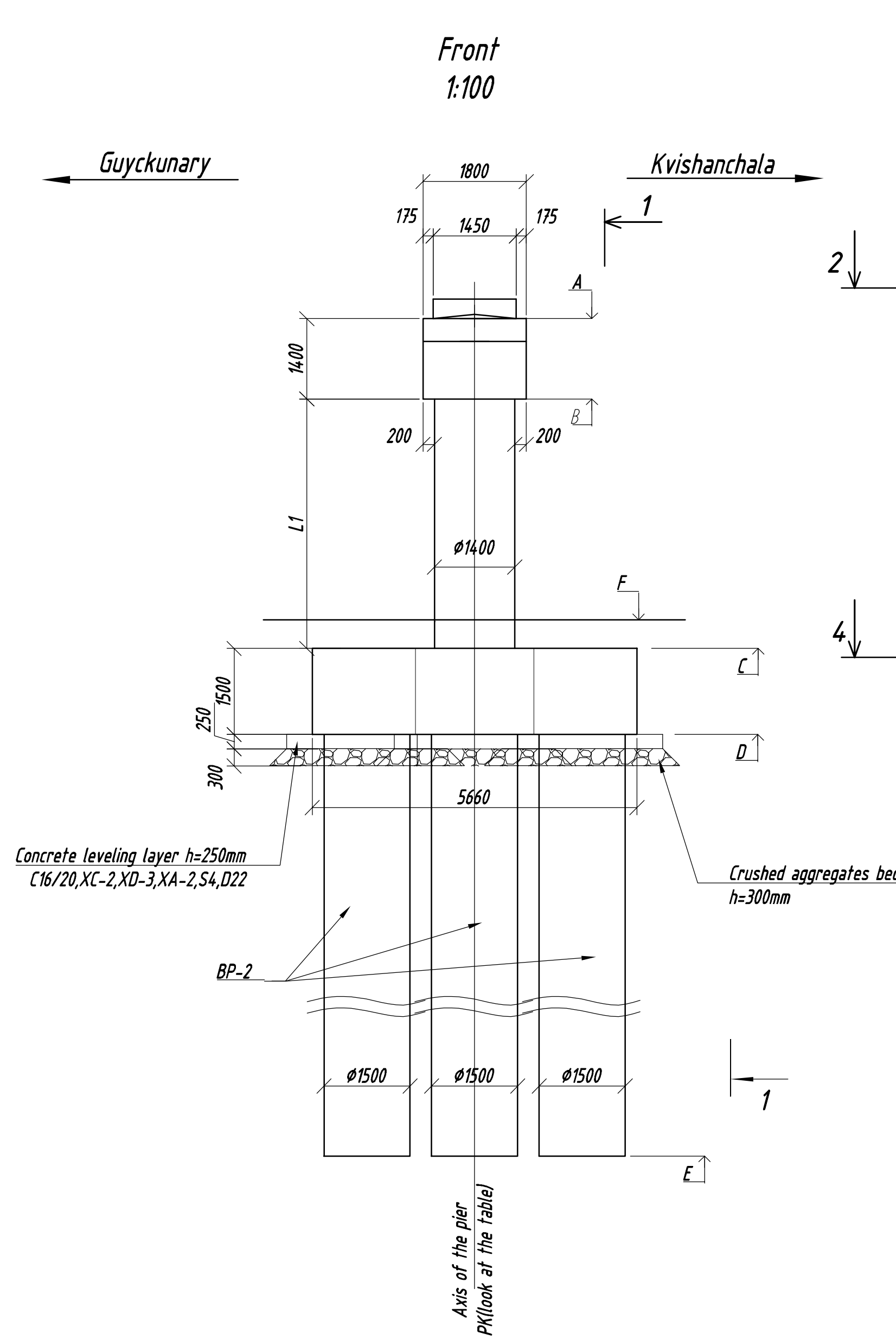
Construction of Samtredia - Grigoleth road section of E-60 km 0 +000 - km 11 +500

Overpass PK 65-88

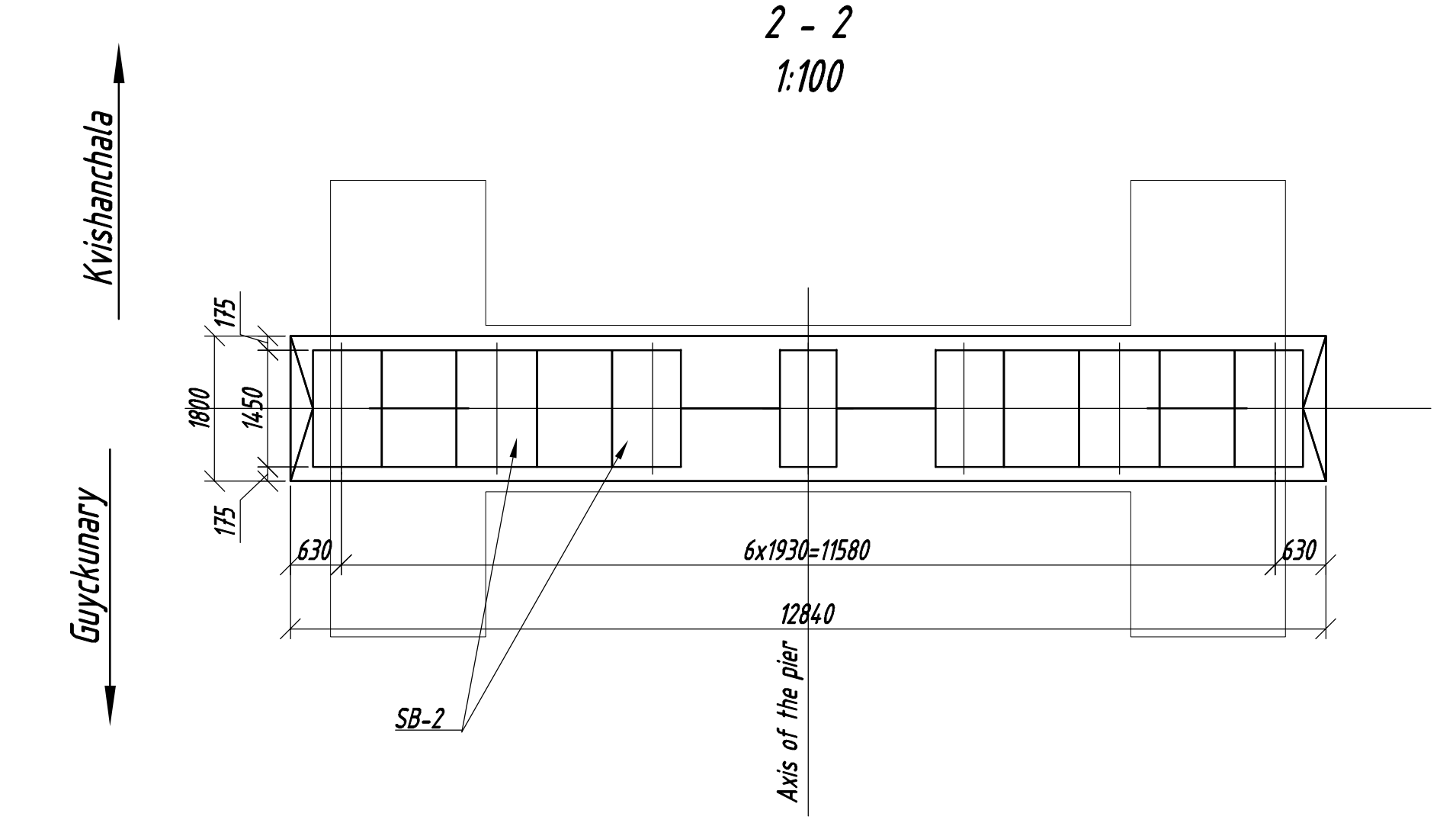
Supporting bedding's and stops against seismicity structures of abutment

Project Manager	A. Valukin	Stage	WD	Sheet	1	Sheets	1
Checked by	H. Garabinskaya						
Exec. by	R. Garabiyuk						

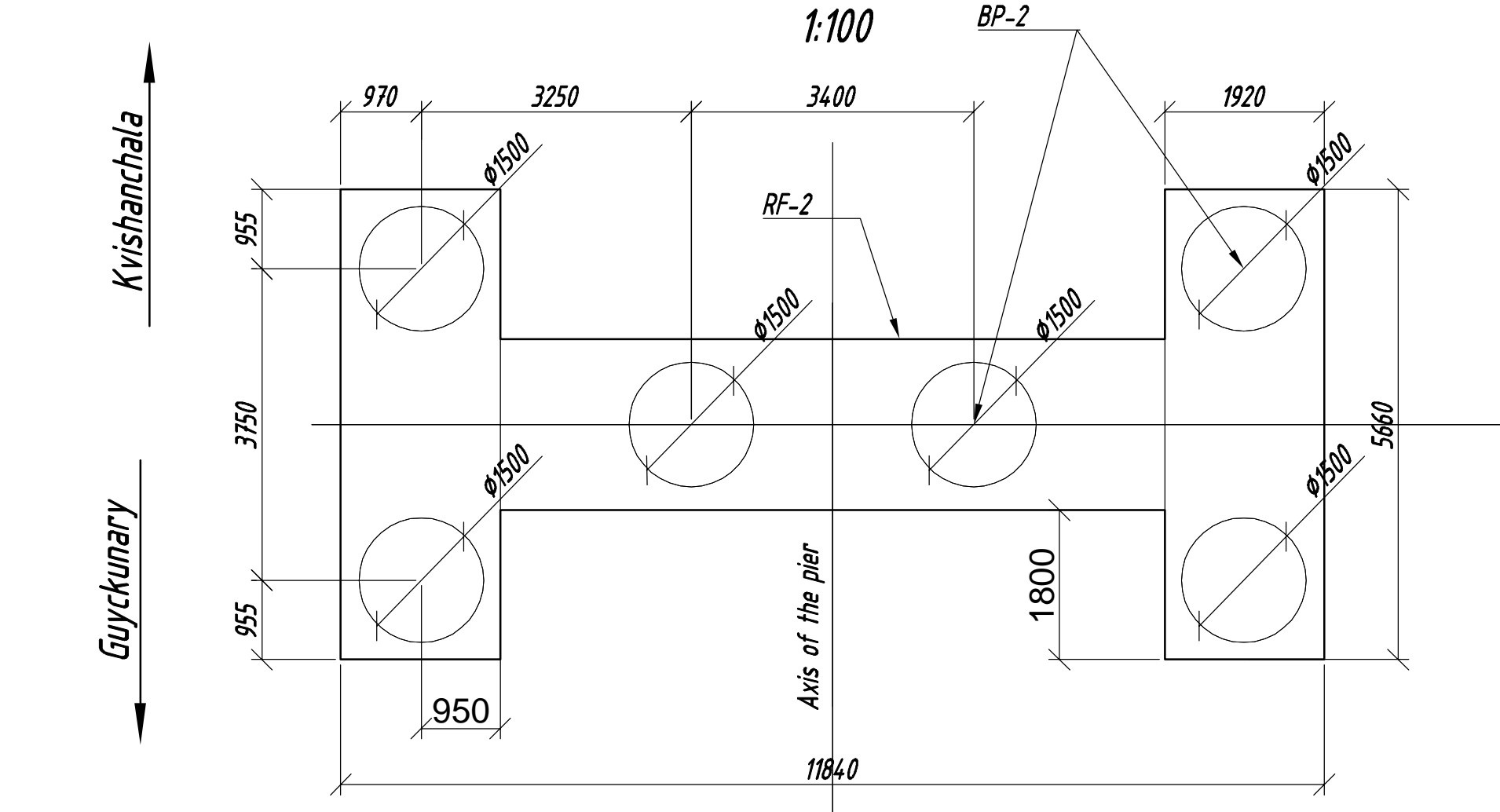
"Road Building 'Altcom' LLC"



**Piers № 2
2 - 2
1:100**



**4 - 4
1:100**



Layout and vertical position of pier

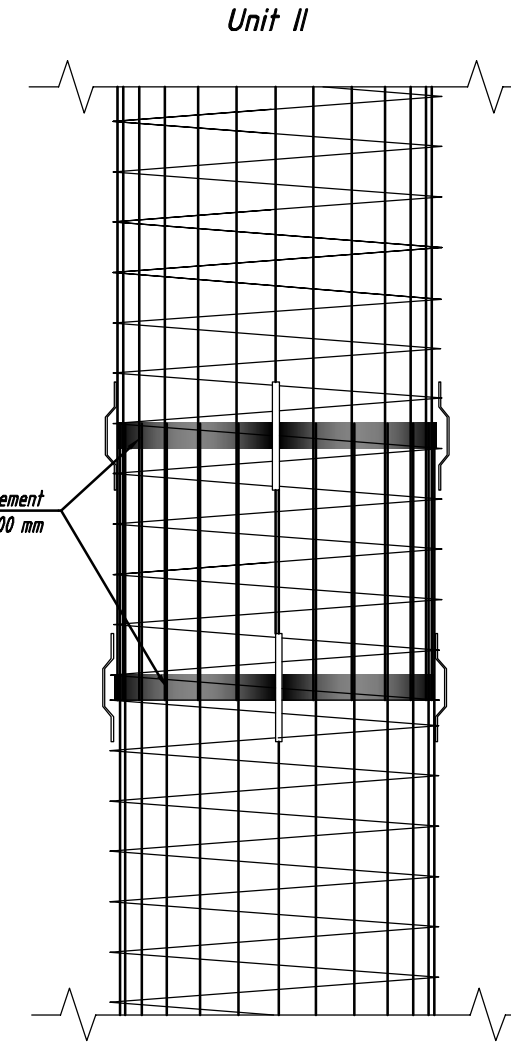
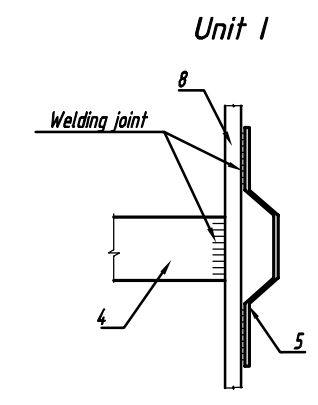
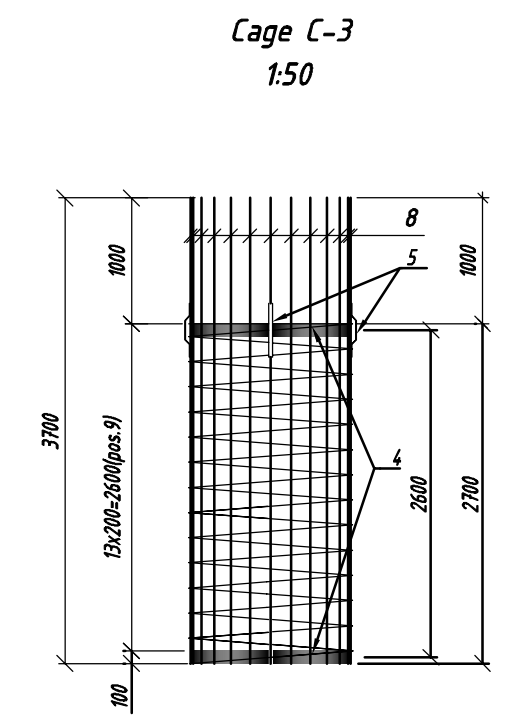
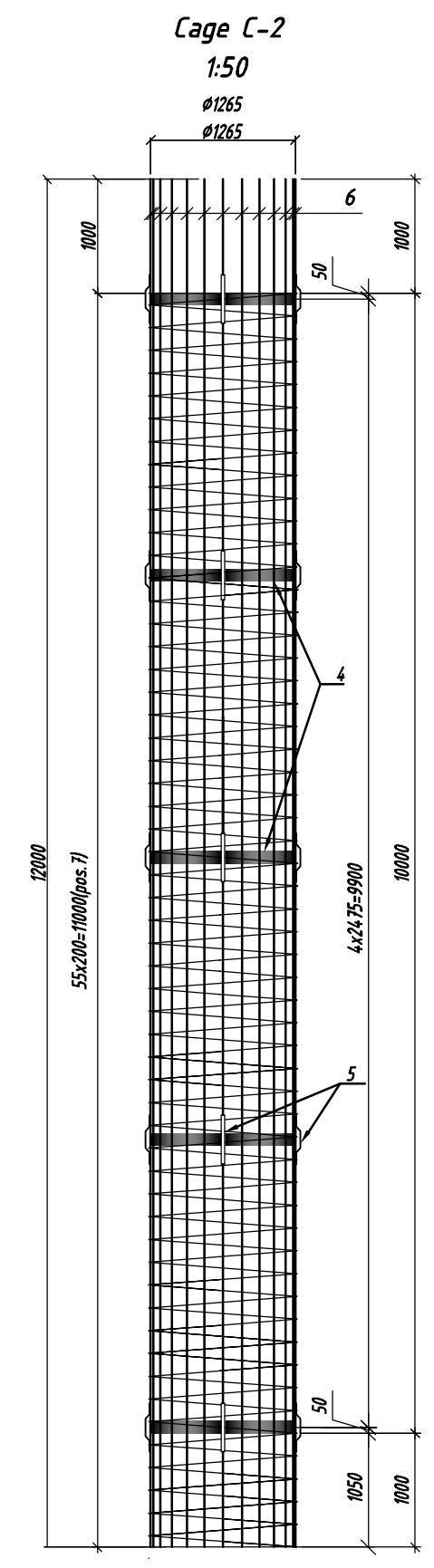
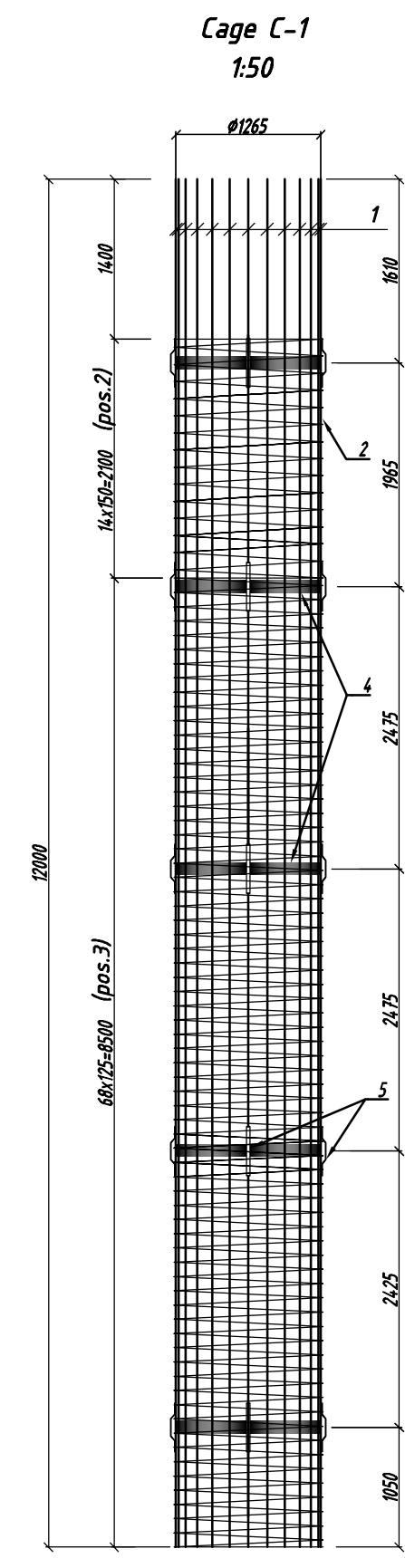
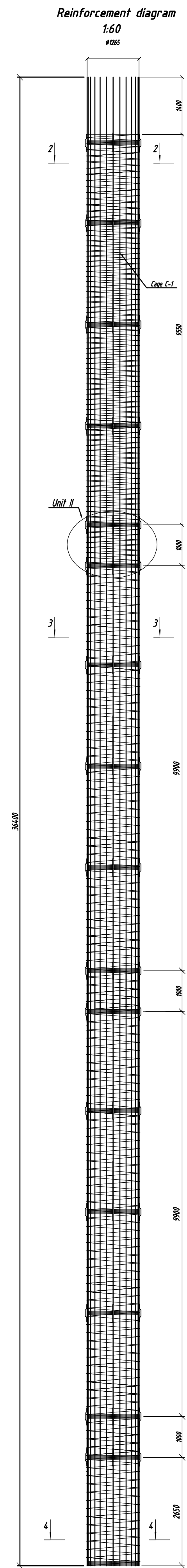
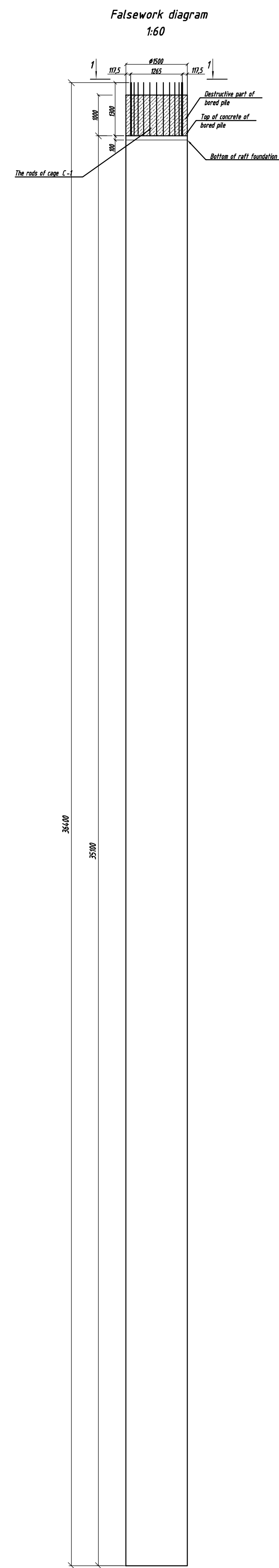
Pier №	PK	A	B	C	D	E	F
2	395.690000	26.766000	25.366000	19.366000	17.866000	-17.134000	19.810000

Specification of the pier

Pos.	Description	Name	Quantity on the pier	Remark
BP-2		Bored pile	6	62,02 m ³
RF-2		Raft foundation	1	57,3 m ³
C-1		Column	2	9,23 m ³
CB-2		Cross-beam	1	28,54 m ³
SB-2		Supporting bedding Stops against seismicity	11	7,21 m ³
1		Concrete C16/20, XC-2, XD-3, XA-2, S4, D22	23,04m ³	
2		Crushed aggregates 0-40 mm	27,65m ³	

ALT-PK 65+88-121-10		Construction of Santredia - Grigoleti road section of E-60 km 0 +000 - km 11 +500		
Proj. Manag.	A. Valukin	Stage	Sheet	Sheets
Checked by	H. Garobinskaya	WD	1	1
Exec. by	R. Garpalyuk	Overpass PK 65+88		General view of intermediate pier
ALTCOM Road Building		"Road Building "Altcom" LLC		





Register of steel consumption per element, kg

Mark of element	Reinforcement						Embedded items		Total
	BS 4449:2005 (B500B)						Total	Total	
	Ø8	Ø10	Ø12	Ø16	Ø25	Ø32			
BP-2	251.32	174.9	54.73	49.28	2879.28	2045.52	5455.03	516.12	5967.19

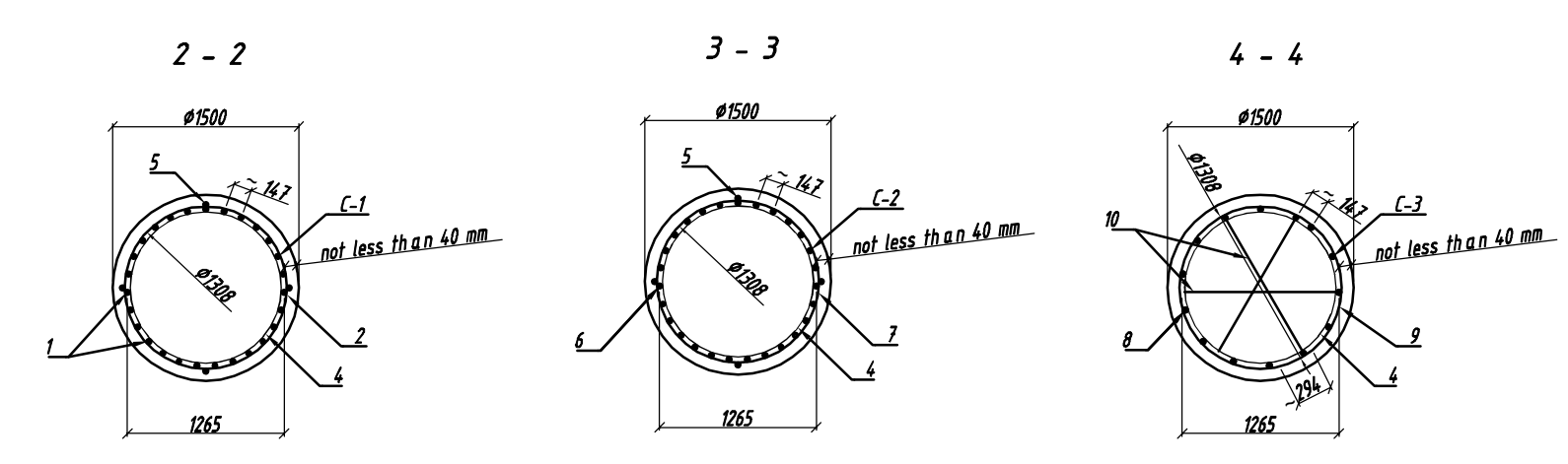
Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
Prefabricated units				
Cage C-1				
C-1	Cage C-1	1		2442.35
1	Ø32 B500B BS 4449:2005, L=12000 mm	27	75.76	2045.52
2	Ø12 B500B BS 4449:2005, L=61635 mm	1	54.73	54.73
3	Ø10 B500B BS 4449:2005, L=283521 mm	1	174.9	174.9
4	-10x100x3862 EN 10025-2:2006	5	30.36	151.80
5	Ø16 B500B BS 4449:2005, L=420 mm	20	0.77	15.40
Cage C-2				
C-2	Cage C-2	2	1528.09	3056.18
6	Ø25 B500B BS 4449:2005, L=12000 mm	27	46.20	1247.40
7	Ø8 B500B BS 4449:2005, L=287310 mm	1	113.49	113.49
4	-10x100x3862 EN 10025-2:2006	5	30.36	151.8
5	Ø16 B500B BS 4449:2005, L=420 mm	20	0.77	15.40
Cage C-3				
C-3	Cage C-3	1		486.57
8	Ø25 B500B BS 4449:2005, L=3700 mm	27	14.24	384.48
9	Ø8 B500B BS 4449:2005, L=61635 mm	1	24.34	24.34
4	-10x100x3862 EN 10025-2:2006	2	30.36	60.72
5	Ø16 B500B BS 4449:2005, L=420 mm	4	0.77	3.08
10	Ø25 B500B BS 4449:2005, L=1208 mm	3	4.65	13.95
Other materials				
11	Concrete C30/37, XC-2, XA-2, S4, D22			62.02 m ³

Detail of welding pos.1,6,8 to pos.3



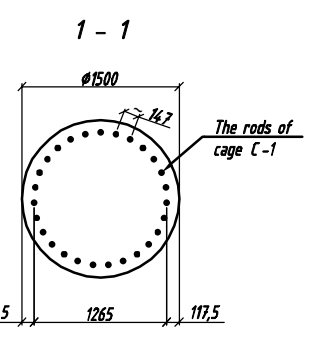
Detail of welding pos.2 to pos.3



Register of items

Pos.	Sketch
2	
3	
7	
9	
4	
5	

- The rods of longitudinal reinforcement (pos.1,6,8) and spiral (pos.2,3,8,9) in their places of intersection must be connected by the staggered manner using a binding wire.
- Joining the spiral (pos.2,3,7,9) must be 30°.
- Reinforcement must be corresponds to BS 4449 and BS 4483 (in accordance with technical specification).
- Concrete must be corresponds to BS 8500-1 and BS 8500-2 (in accordance with technical specification).
- Welding points must be corresponds to BS 7123 (in accordance with technical specification).

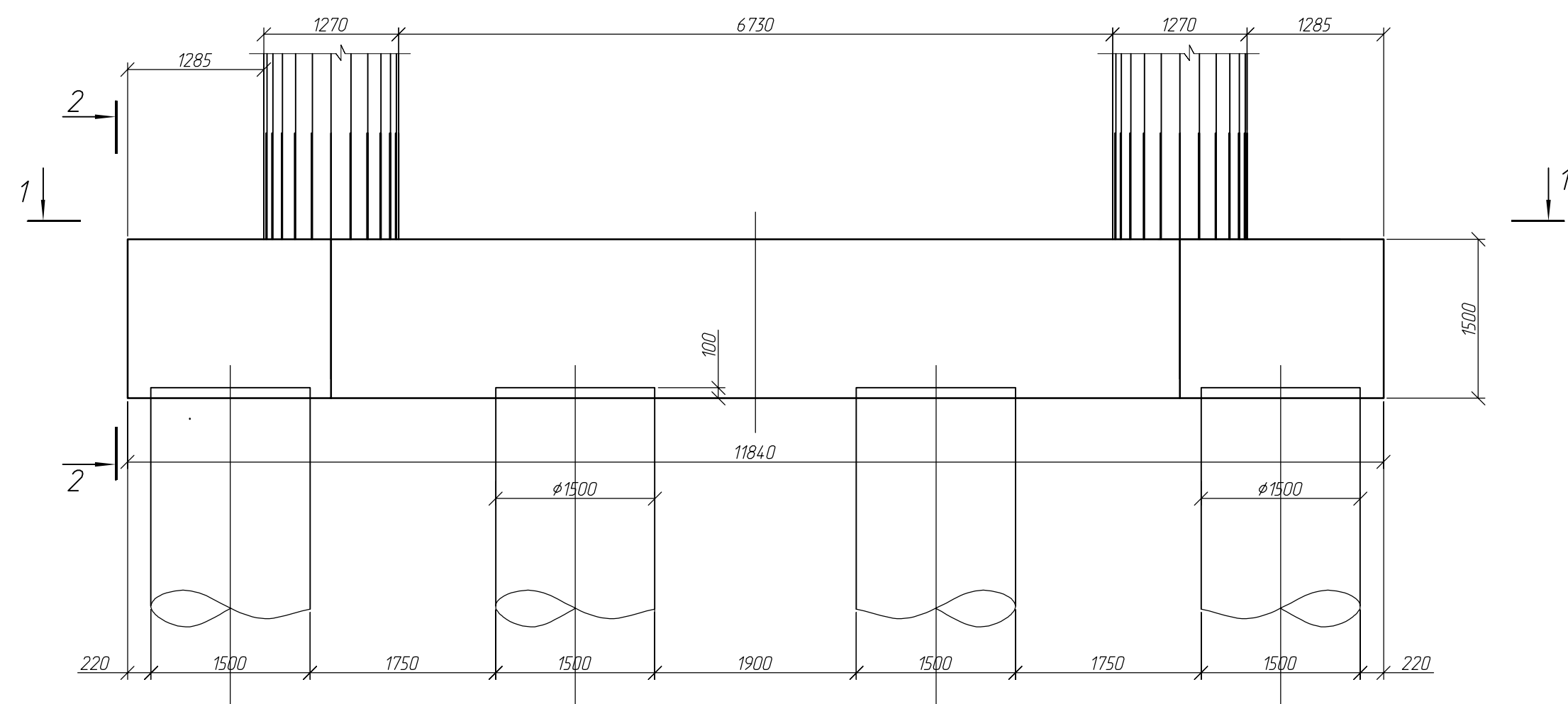


ALT-PK 65-88-02-11		Construction of Samsre - Grigoleti road section of E-60 km 0+000 - km 11+500		
Proj. Manag.	A. Valukin	Stage	WD	1
Checked by	M. Garudalaya	Sheet	1	1
Exec. by	R. Garudalaya	Bored pile structure of pier		
		"Road Building" Altcom LLC		

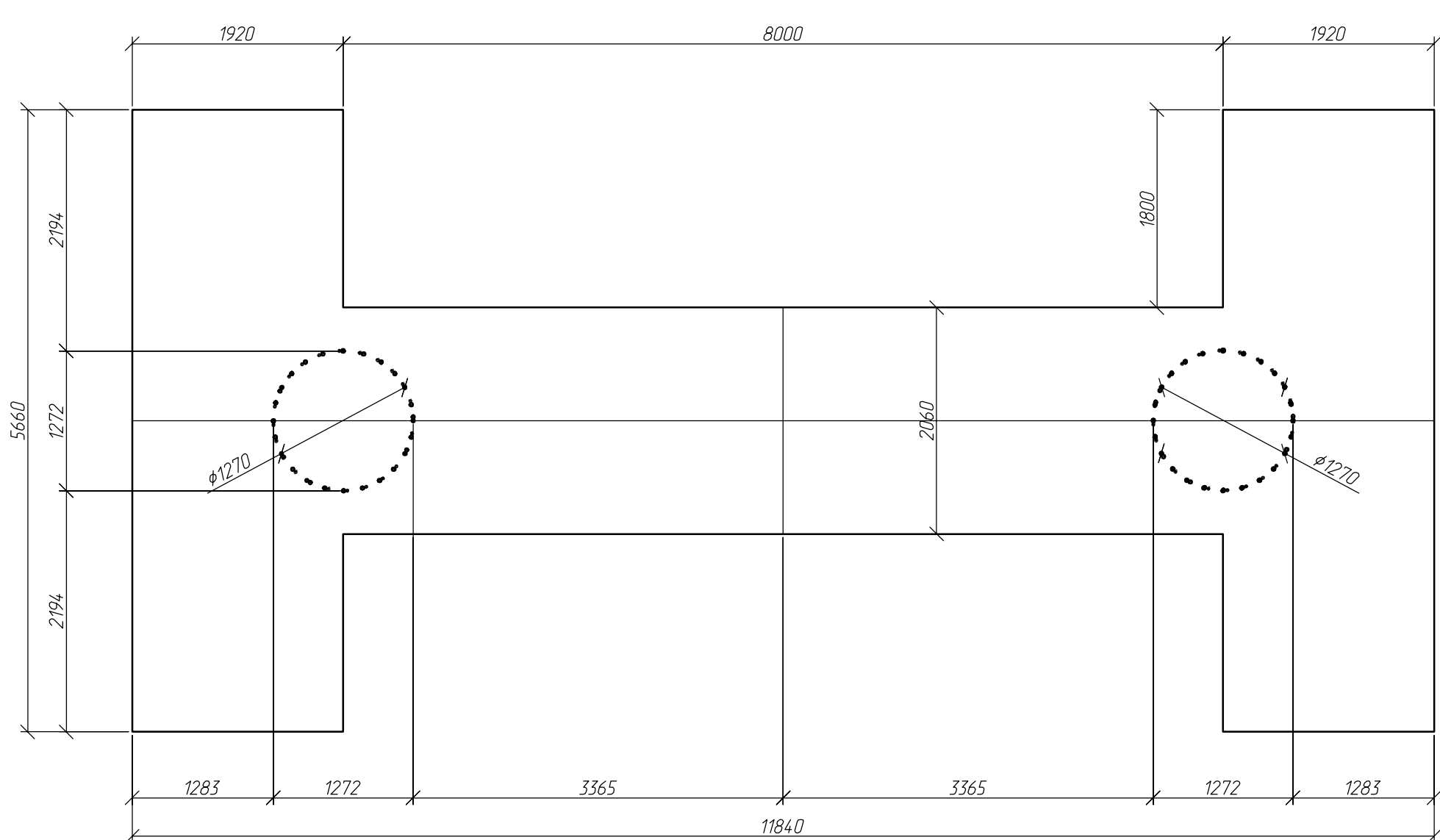




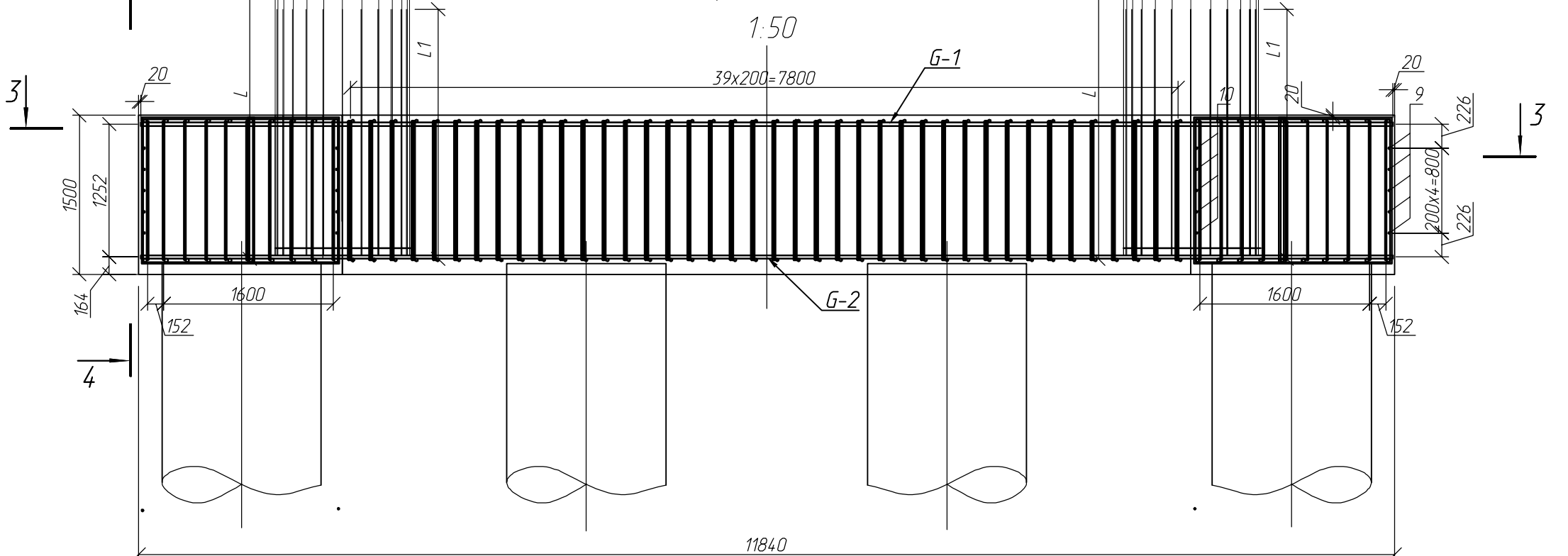
Falsework diagram
1:50



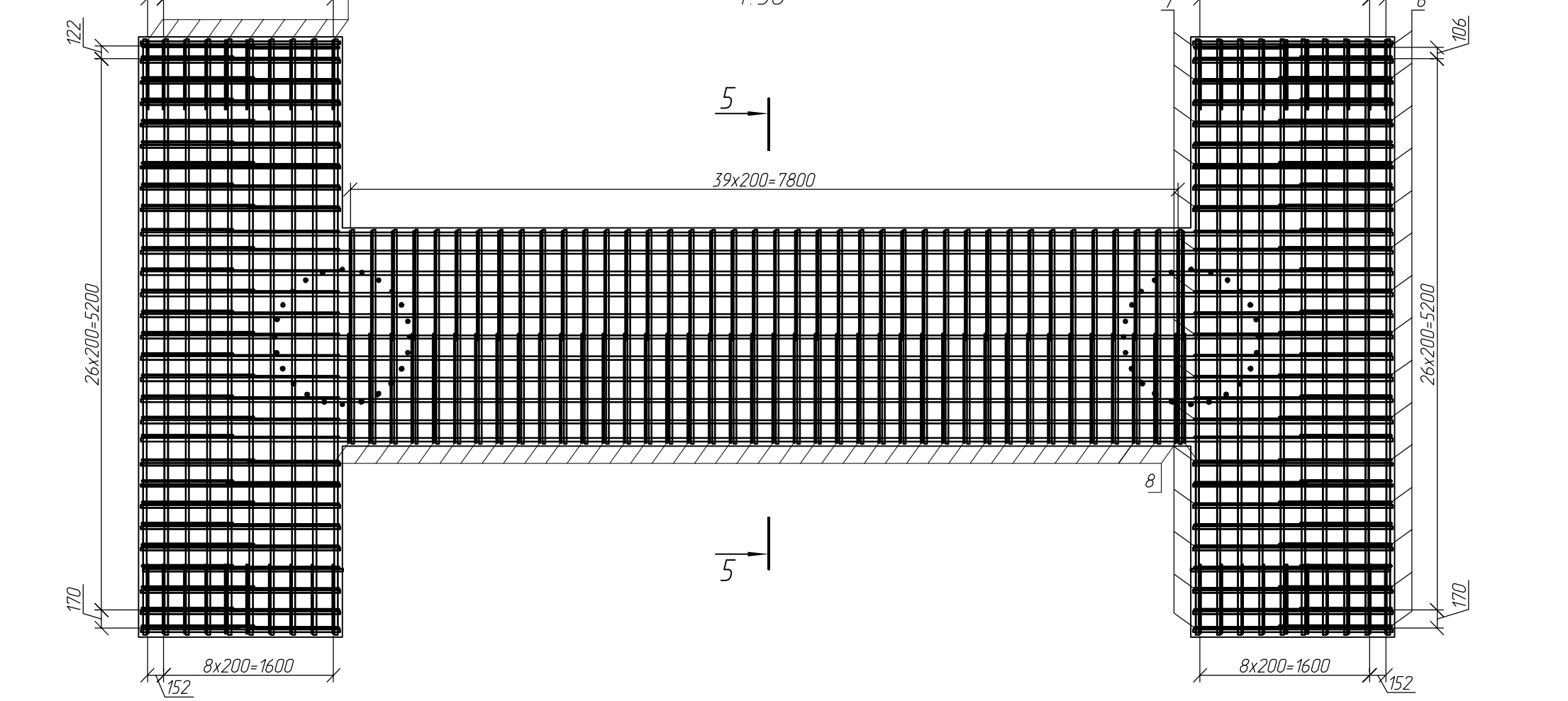
1-1
1:50



Reinforcement diagram
(Pos. 11, 12 are not shown)
1:50

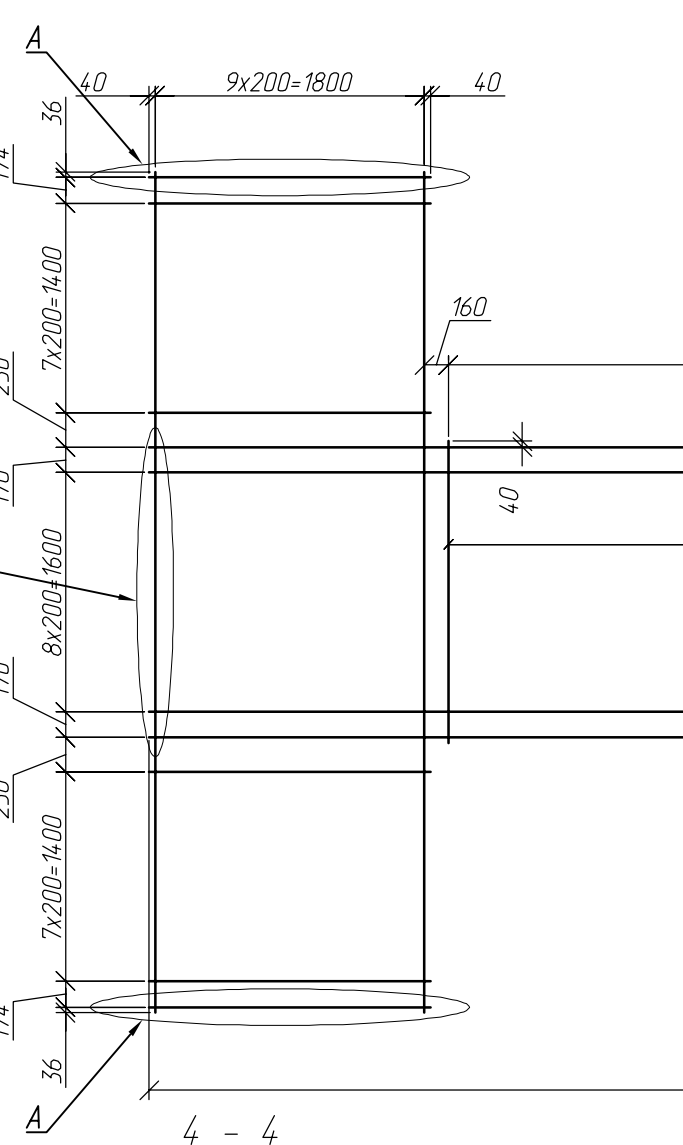
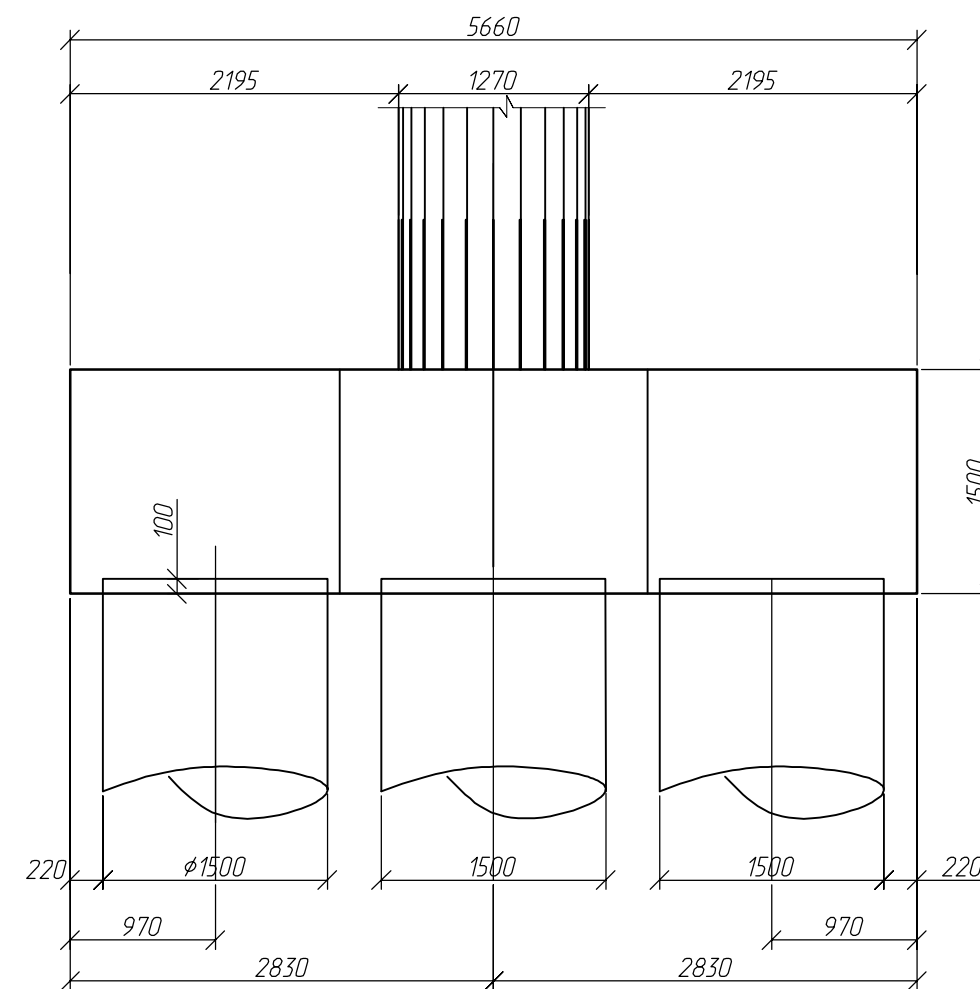


3-3
1:50

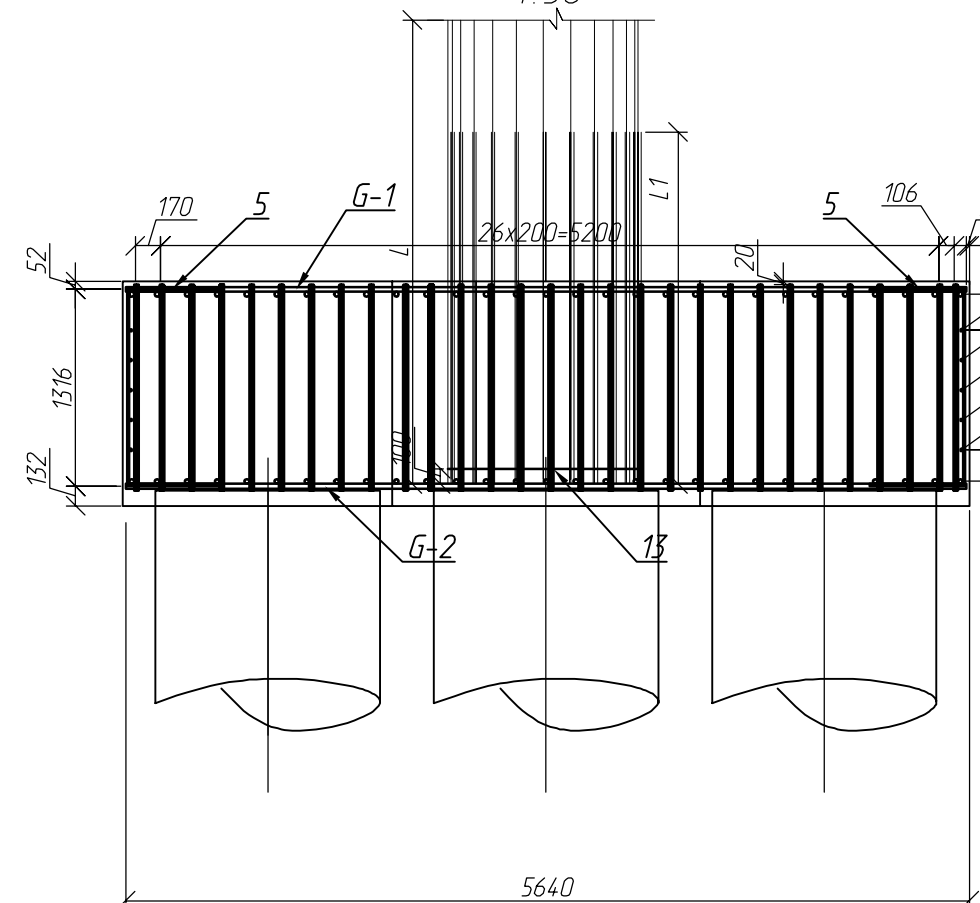


5-5
1:50

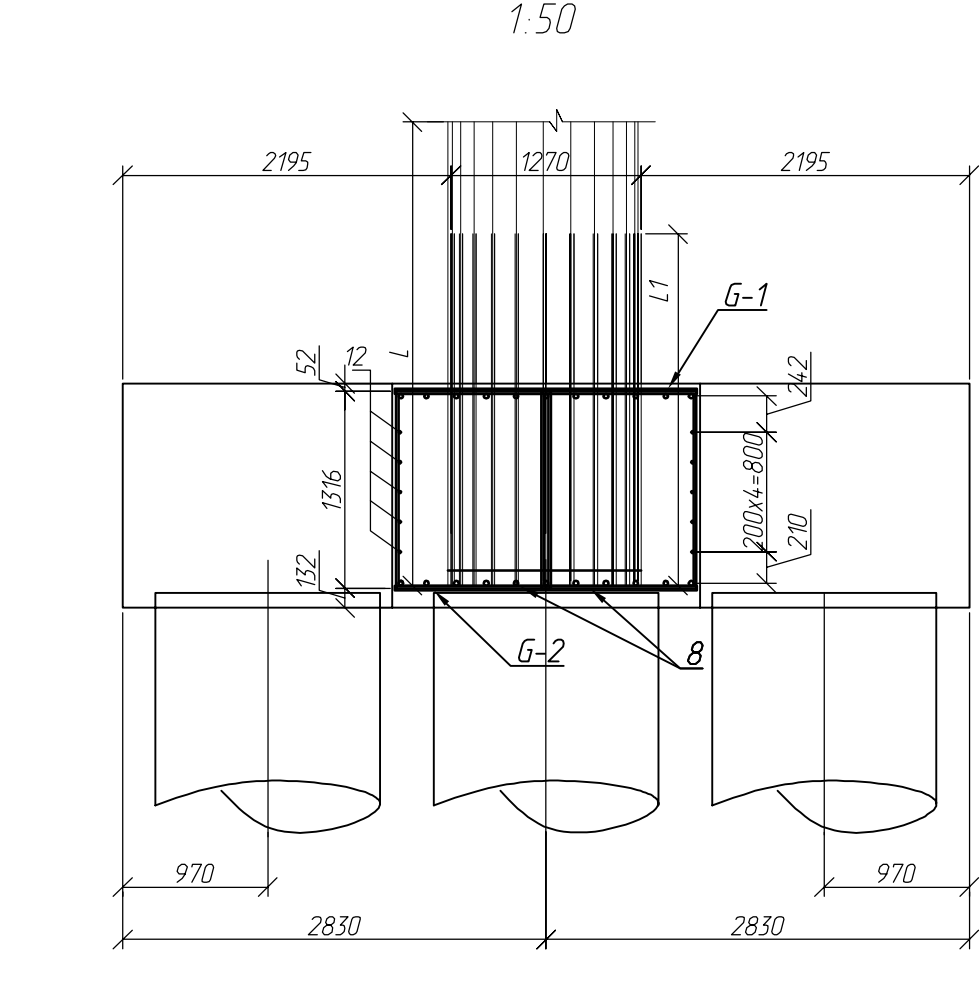
2-2
1:50



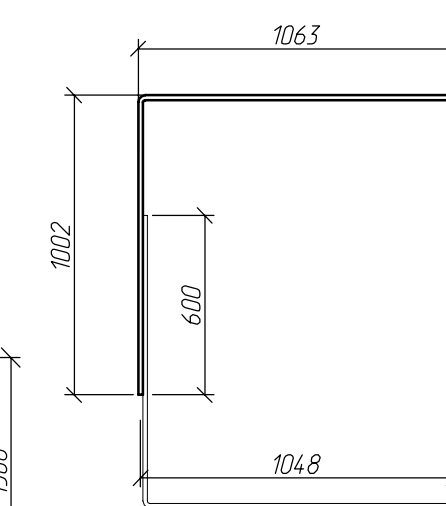
(Pos. 9 are not shown)
1:50



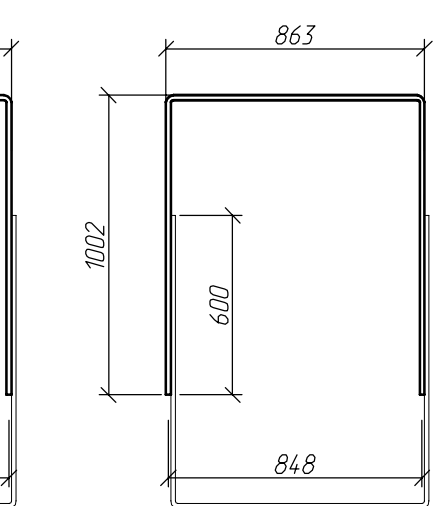
5-5
1:50



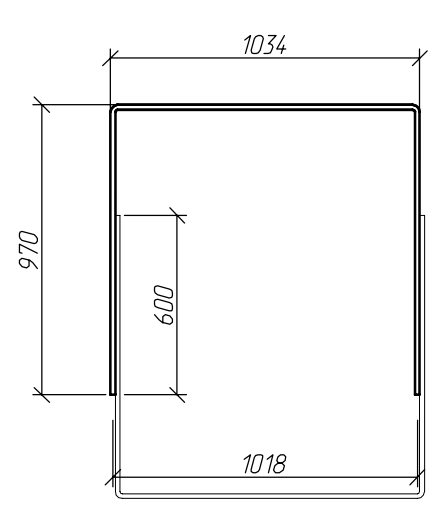
Pos 6
1:50



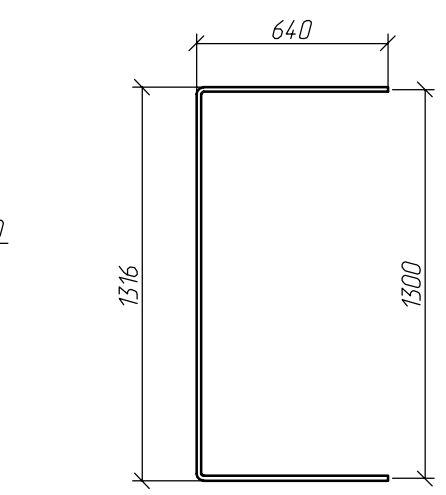
Pos 7
1:50



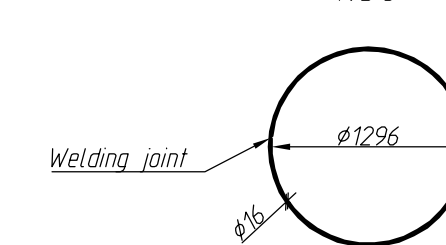
Pos 8
1:50



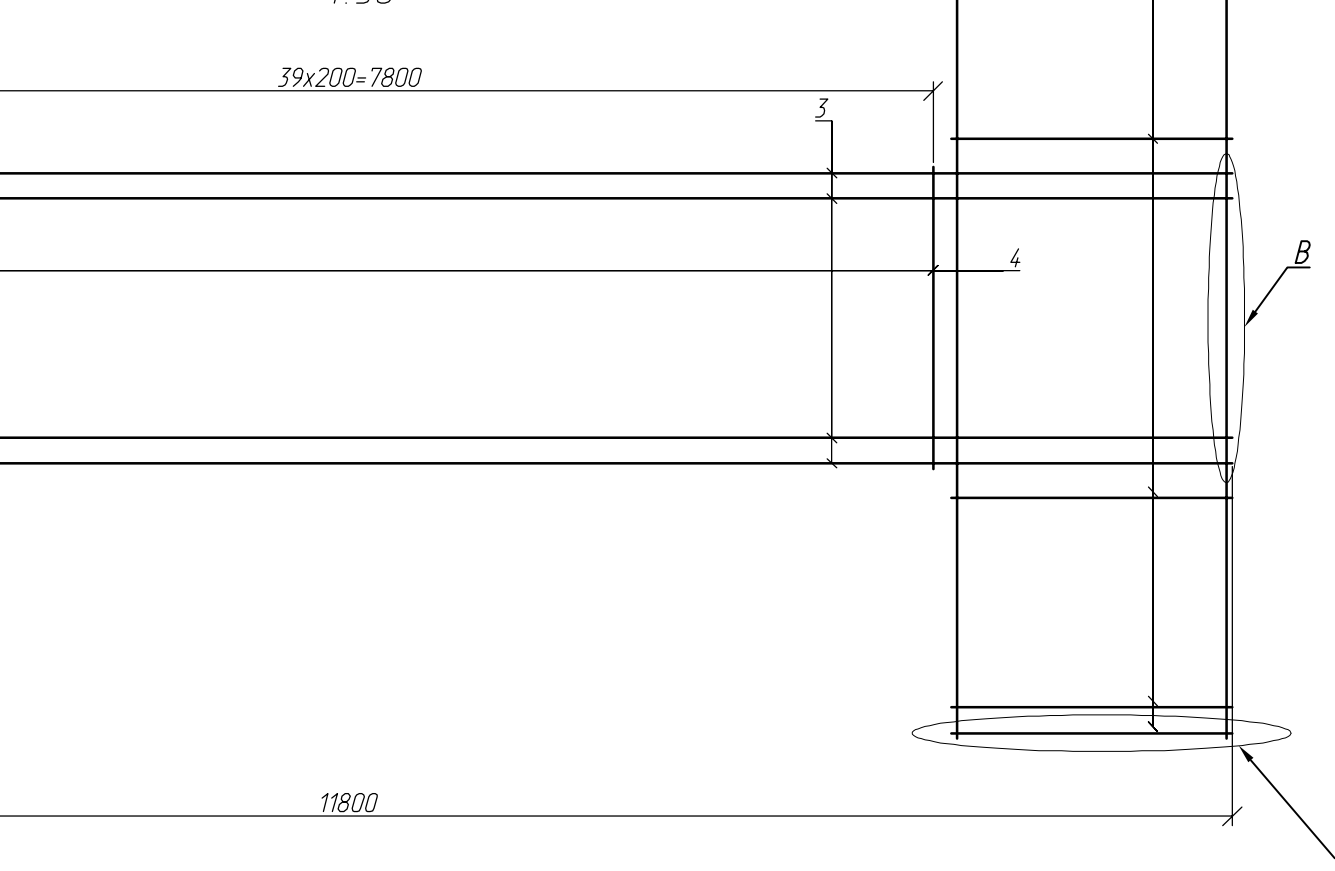
Pos 5
1:50



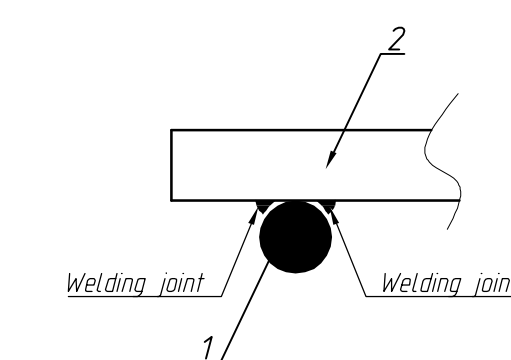
Pos 13
1:50



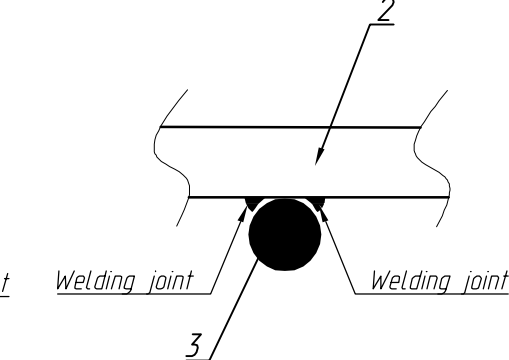
Cage G-1
(Top)
1:50



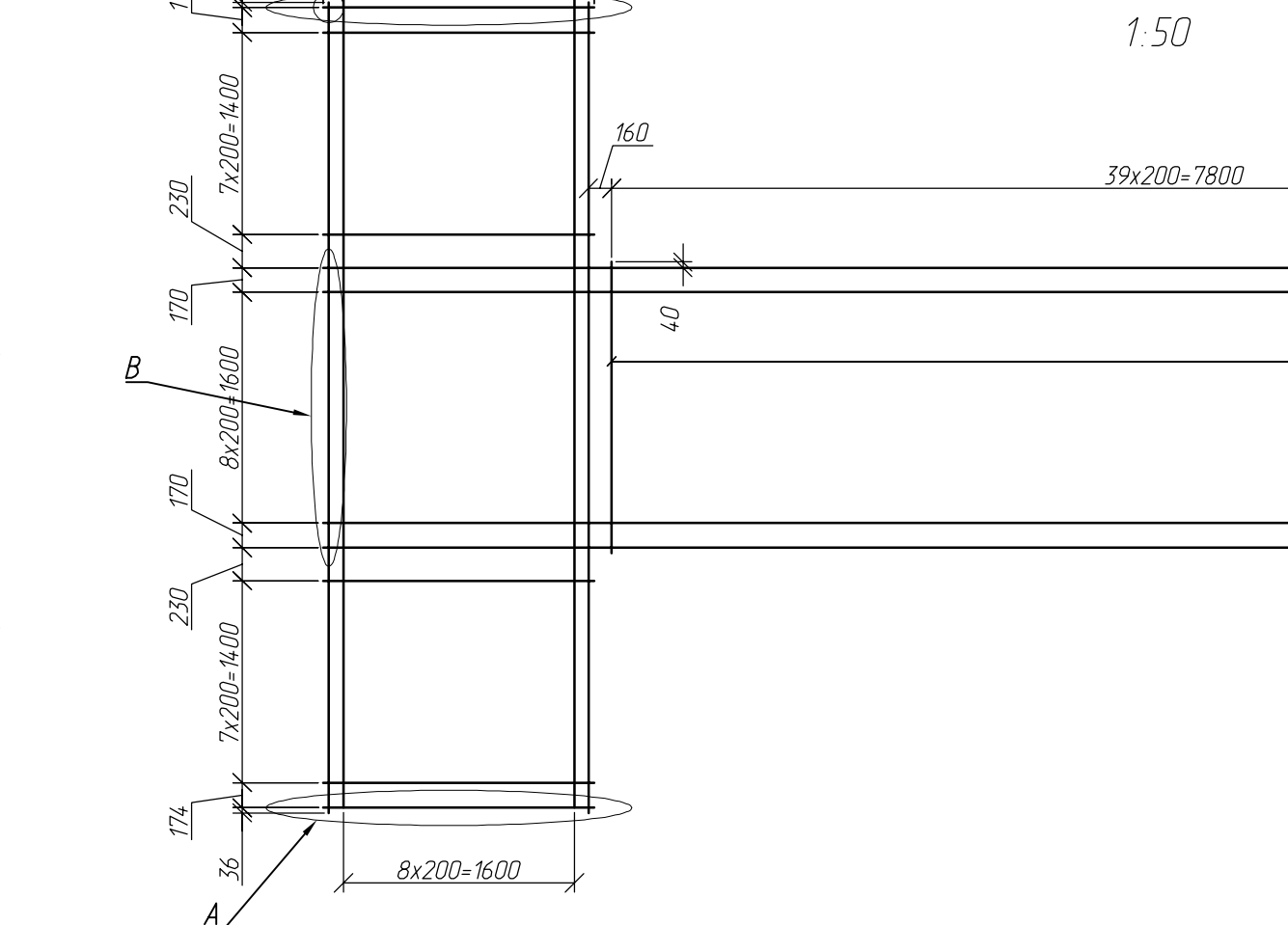
Unit "A"



Unit "B"



Cage G-2
(Bottom)
1:50



Register of steel consumption per element, kg

Mark of element	Reinforcement				Total
	BS 4449:2005 (B500B)				
	φ16	φ20	φ25	φ32	
RF-2	2351,00	732,48	389,34	3056,30	6529,12

Specification of element, kg

Pos.	Name	Quantity	Weight of unit, kg	Weight of all, kg
Prefabricated units				
C-1	Cage C-1	1		1894,39
1	φ20 B500B BS 4449:2005, L=1880 mm	36	4,64	167,04
2	φ32 B500B BS 4449:2005, L=5620 mm	20	35,46	709,20
3	φ32 B500B BS 4449:2005, L=1800 mm	11	74,45	818,95
4	φ20 B500B BS 4449:2005, L=2020 mm	40	4,98	199,20
C-2	Cage C-2	1		2283,73
1	φ20 B500B BS 4449:2005, L=1880 mm	36	4,64	167,04
2	φ32 B500B BS 4449:2005, L=5620 mm	20	35,46	709,20
3	φ32 B500B BS 4449:2005, L=1800 mm	11	74,45	818,95
4	φ20 B500B BS 4449:2005, L=2020 mm	40	4,98	199,20
15	φ25 B500B BS 4449:2005, L=5620 mm	18	21,63	389,34
Details				
5	φ16 B500B BS 4449:2005, L=2596 mm	40	4,10	164,00
6	φ16 B500B BS 4449:2005, L=3067 mm	116	4,84	561,44
7	φ16 B500B BS 4449:2005, L=2867 mm	116	4,52	524,32
8	φ16 B500B BS 4449:2005, L=2974 mm	160	4,69	750,40
9	φ16 B500B BS 4449:2005, L=5620 mm	10	8,88	88,80
10	φ16 B500B BS 4449:2005, L=1900 mm	20	3,00	60,00
11	φ16 B500B BS 4449:2005, L=1880 mm	20	2,97	59,40
12	φ16 B500B BS 4449:2005, L=8230 mm	10	13,00	130,00
13	φ16 B500B BS 4449:2005, L=4000 mm	2	6,32	12,64
Other materials				
14	Concrete C30/37, XC-2, XD-3, XF-1, S4, D22			57,30 m³

Table of variables

Pier №	Column	L, MM	L1, MM
2	C-1	8720	3500

1. Reinforcement must be corresponds to BS 4449 u BS 4483 (in accordance with technical specification).
2. Concrete must be corresponds to BS 8500-1 u BS 8500-2 (in accordance with technical specification).
3. Welding joints must be corresponds to BS 7123 (in accordance with technical specification).

ALT-PK 65-88-121-12		Construction of Santredia - Grigoloti road section of E-60 km 0 +000 - km 11 +500	
Proj.Manag. A. Valukin	Checked by H.Garabinskaya	Stage	Sheet
Exec. by R.Garpolyuk		WD	1
		Overpass PK 65-88	Sheets
		Raft foundation RF-2	1
		"Road Building 'Altcom' LLC"	