


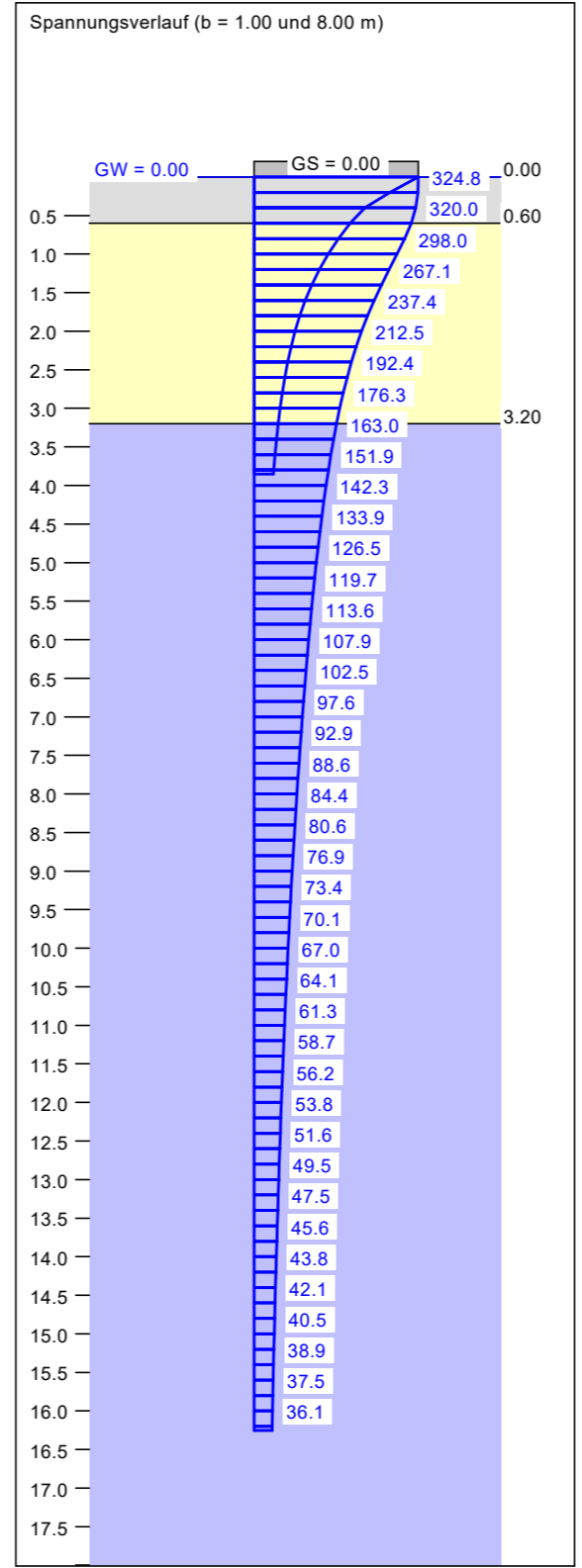
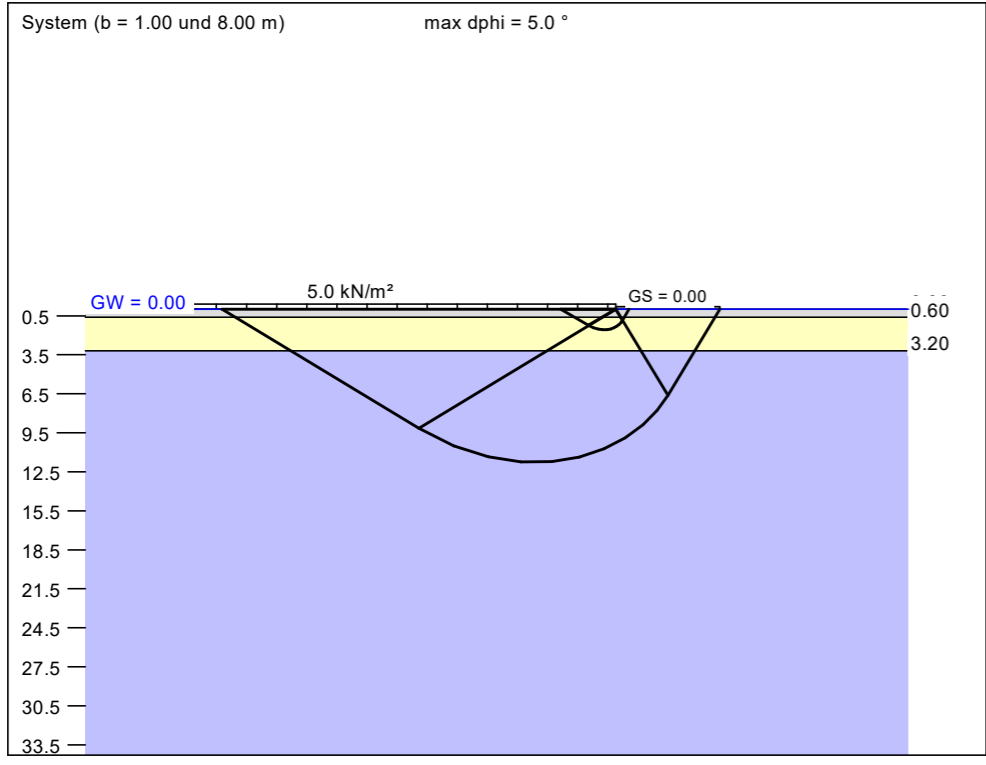


Boden	γ [kN/m ³]	γ' [kN/m ³]	ϕ [°]	c [kN/m ²]	E_s [MN/m ²]	ν [-]	Bezeichnung
	20.0	10.0	35.0	0.0	80.0	0.00	Bodenersatzkörper
	19.0	9.0	27.5	0.0	30.0	0.00	Moräne
	20.0	10.0	27.5	5.0	60.0	0.00	Geschiebemergel

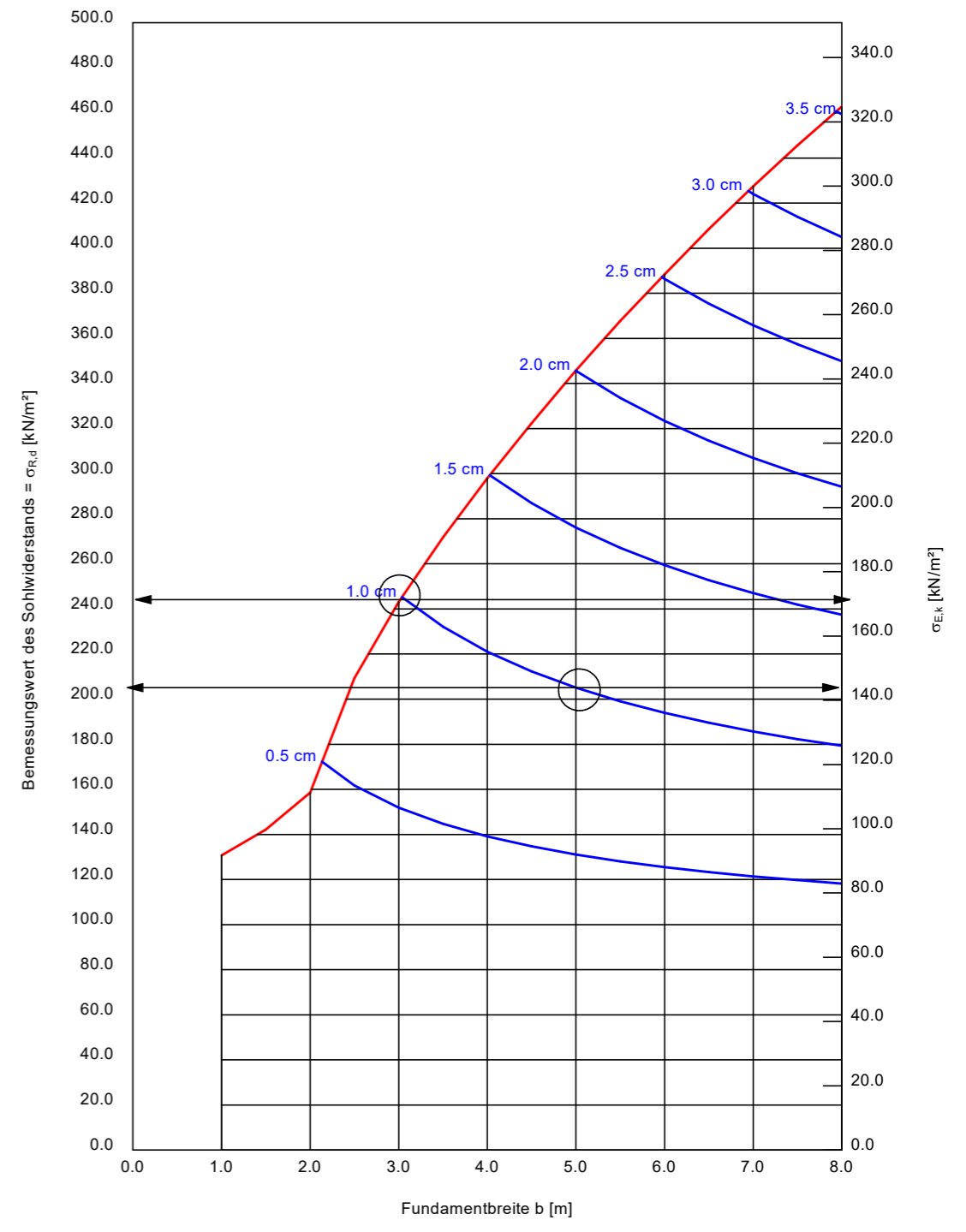


Berechnungsgrundlagen:
 Norm: EC 7
 BS: DIN 1054: BS-P
 Grundbruchformel nach DIN 4017:2006
 Teilsicherheitskonzept (EC 7)
 Streifenfundament (a = 10.00 m)
 $\gamma_{R,v} = 1.40$
 $\gamma_G = 1.35$
 $\gamma_Q = 1.50$
 Anteil Veränderliche Lasten = 0.500

$\gamma_{(G,Q)} = 0.500 \cdot \gamma_Q + (1 - 0.500) \cdot \gamma_G$
 $\gamma_{(G,Q)} = 1.425$
 Gründungssohle = 0.00 m
 Grundwasser = 0.00 m
 Vorbelastung = 30.0 kN/m²
 Grenztiefe mit p = 20.0 %
 Grenztiefen spannungsvariabel bestimmt

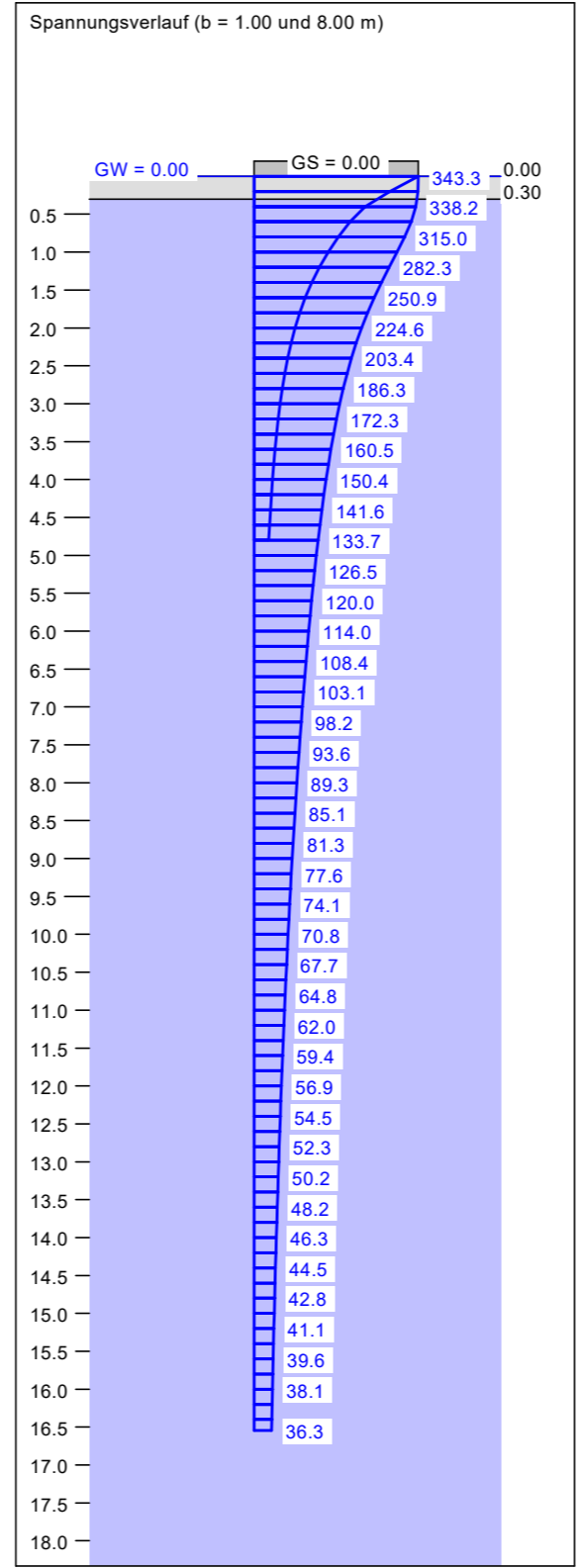
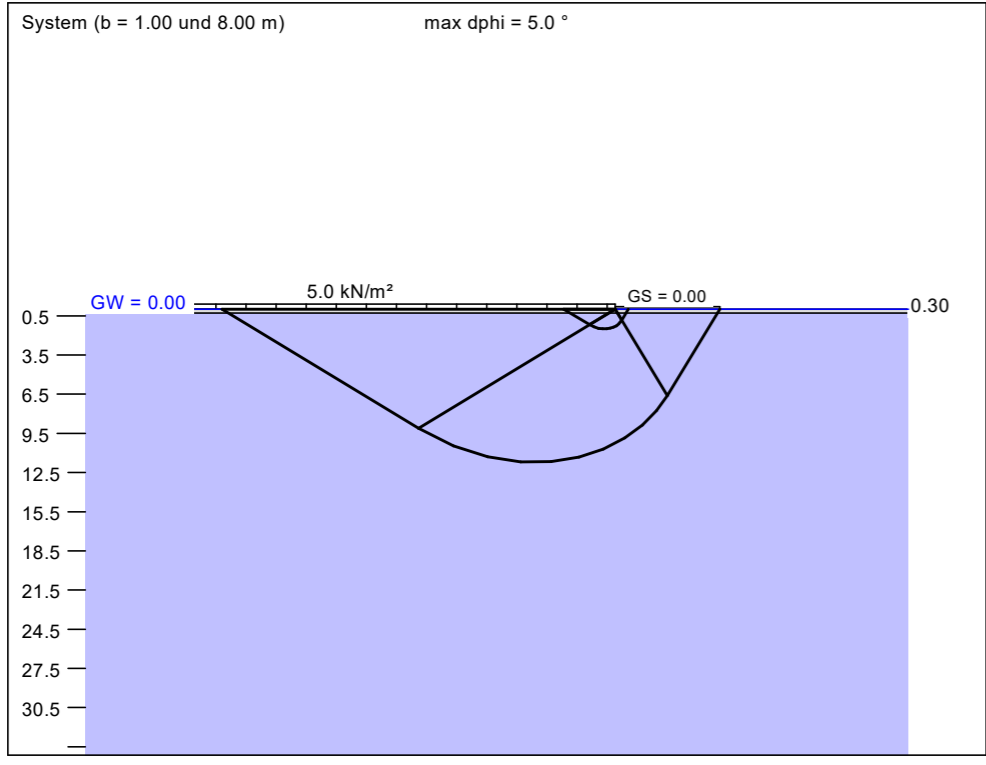
— Sohldruck
 — Setzungen

a	b	$\sigma_{R,d}$	$R_{n,d}$	$\sigma_{E,k}$	s	cal ϕ	cal c	γ_2	$\sigma_{\dot{u}}$	t_g	UK LS
[m]	[m]	[kN/m ²]	[kN/m]	[kN/m ²]	[cm]	[°]	[kN/m ²]	[kN/m ³]	[kN/m ²]	[m]	[m]
10.00	1.00	130.7	130.7	91.7	0.20 *	29.7 **	0.00	9.52	5.00	3.85	1.57
10.00	1.50	142.1	213.2	99.8	0.30 *	28.9 **	0.00	9.38	5.00	4.79	2.29
10.00	2.00	158.6	317.2	111.3	0.43 *	28.5 **	0.00	9.29	5.00	5.75	3.01
10.00	2.50	209.3	523.2	146.9	0.73 *	28.2 **	1.53	9.29	5.00	7.35	3.73
10.00	3.00	243.1	729.3	170.6	0.98 *	28.1 **	2.19	9.35	5.00	8.53	4.46
10.00	3.50	271.8	951.3	190.7	1.23 *	28.0 **	2.60	9.41	5.00	9.57	5.18
10.00	4.00	298.0	1191.9	209.1	1.49 *	27.9 **	2.90	9.46	5.00	10.51	5.91
10.00	4.50	322.4	1450.7	226.2	1.74 *	27.9 **	3.13	9.50	5.00	11.38	6.64
10.00	5.00	345.7	1728.5	242.6	2.00 *	27.9 **	3.31	9.54	5.00	12.20	7.36
10.00	5.50	367.8	2022.8	258.1	2.26 *	27.8 **	3.46	9.58	5.00	12.97	8.09
10.00	6.00	388.4	2330.7	272.6	2.52 *	27.8 **	3.59	9.60	5.00	13.69	8.82
10.00	6.50	408.4	2654.8	286.6	2.77 *	27.8 **	3.70	9.63	5.00	14.38	9.54
10.00	7.00	427.5	2992.2	300.0	3.03 *	27.7 **	3.79	9.65	5.00	15.04	10.27
10.00	7.50	445.6	3341.8	312.7	3.28 *	27.7 **	3.87	9.67	5.00	15.66	11.00
10.00	8.00	462.8	3702.7	324.8	3.53 *	27.7 **	3.94	9.69	5.00	16.25	11.73



* Vorbelastung = 30.0 kN/m²
 ** phi wegen 5° Bedingung abgemindert
 $\sigma_{E,k} = \sigma_{of,k} / (\gamma_{R,v} \cdot \gamma_{(G,Q)}) = \sigma_{of,k} / (1.40 \cdot 1.43) = \sigma_{of,k} / 1.99$ (für Setzungen)
 Verhältnis Veränderliche(Q)/Gesamtlasten(G+Q) [-] = 0.50

Boden	γ [kN/m ³]	γ' [kN/m ³]	ϕ [°]	c [kN/m ²]	E_s [MN/m ²]	ν [-]	Bezeichnung
	20.0	10.0	35.0	0.0	80.0	0.00	Bodenersatzkörper
	20.0	10.0	27.5	5.0	60.0	0.00	Geschiebemergel



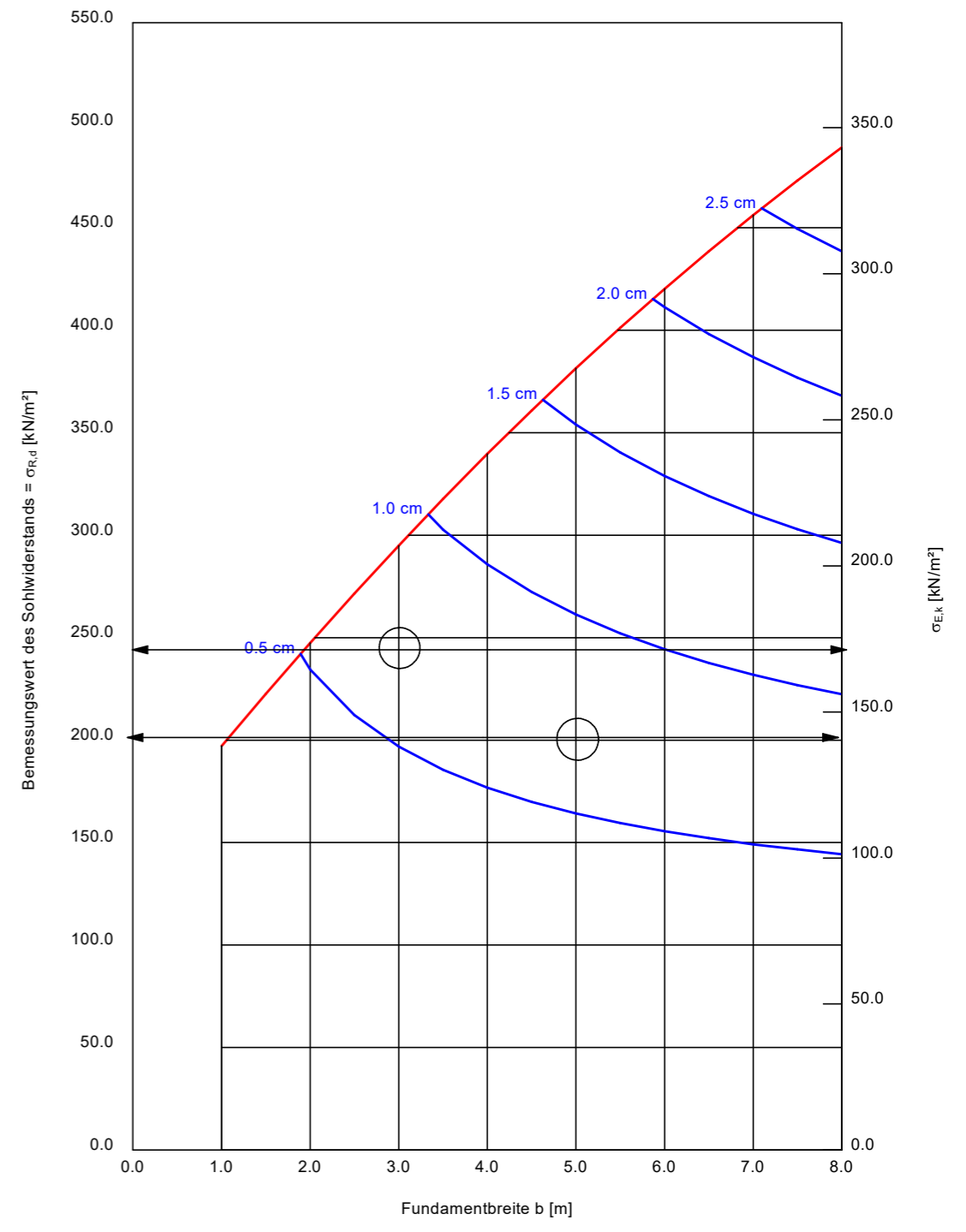
Berechnungsgrundlagen:
 Norm: EC 7
 BS: DIN 1054: BS-P
 Teilsicherheitskonzept (EC 7)
 Streifenfundament (a = 10.00 m)
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 $\gamma_G = 1.35$
 $\gamma_Q = 1.50$
 Anteil Veränderliche Lasten = 0.500

$\gamma_{(G,Q)} = 0.500 \cdot \gamma_Q + (1 - 0.500) \cdot \gamma_G$
 $\gamma_{(G,Q)} = 1.425$
 Gründungssohle = 0.00 m
 Grundwasser = 0.00 m
 Vorbelastung = 30.0 kN/m²
 Grenztiefe mit p = 20.0 %
 Grenztiefen spannungsvariabel bestimmt

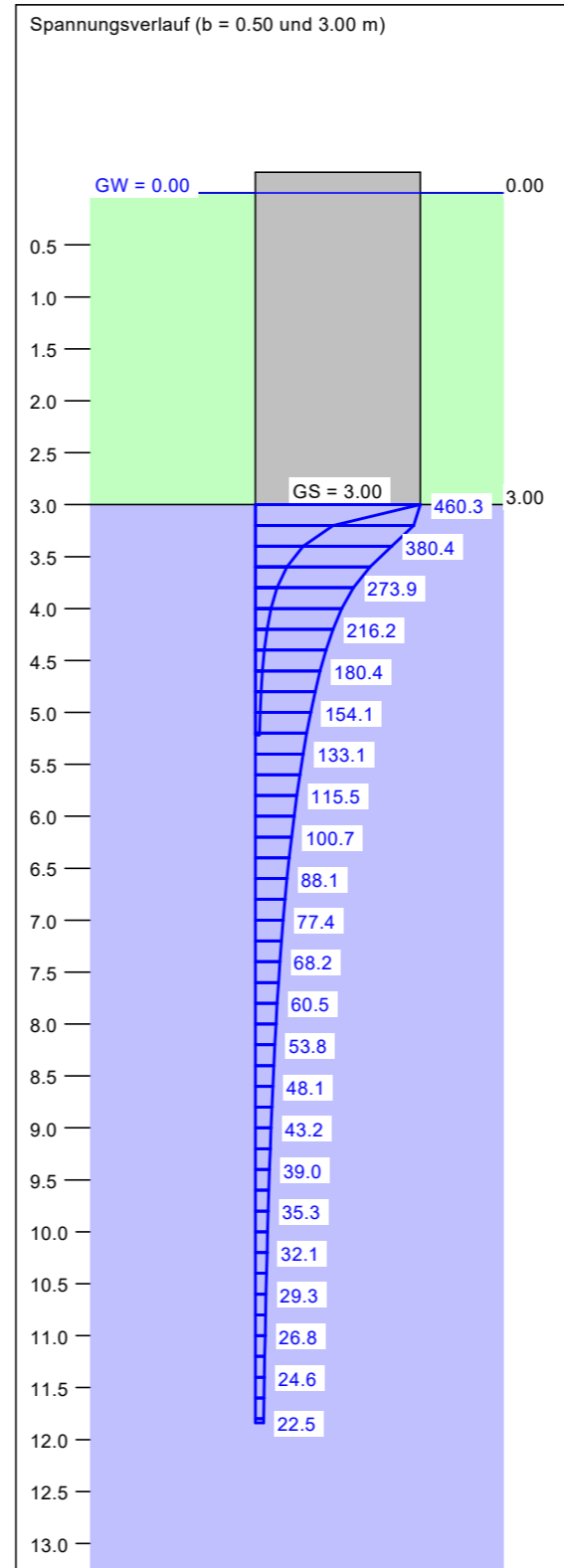
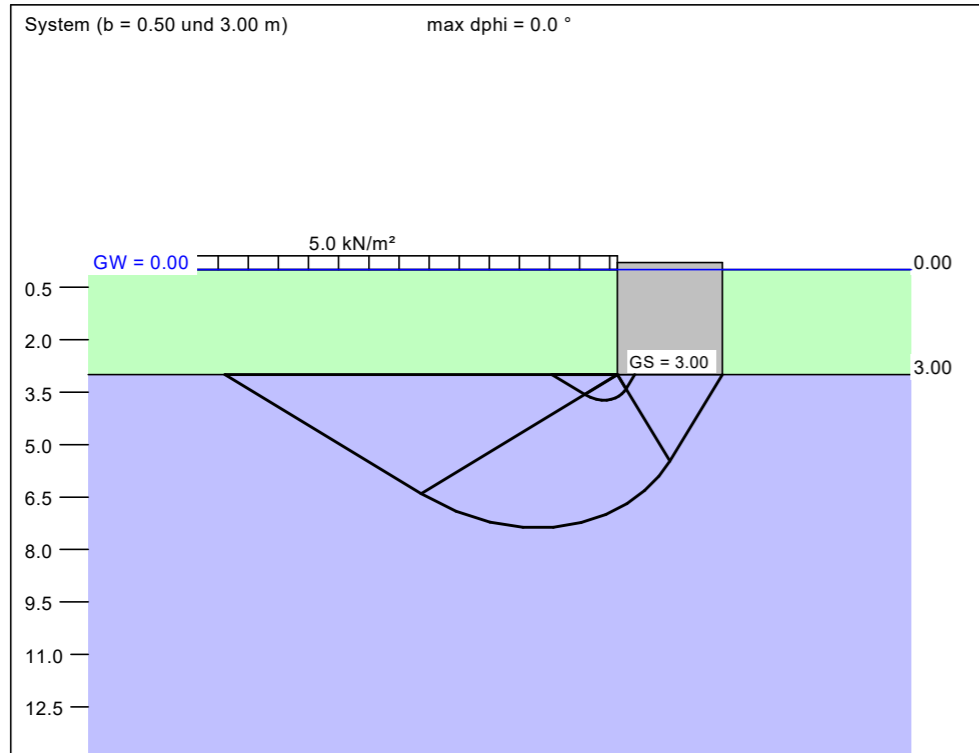
— Sohldruck
 — Setzungen

a	b	$\sigma_{R,d}$	$R_{n,d}$	$\sigma_{E,k}$	s	cal ϕ	cal c	γ_2	$\sigma_{\dot{u}}$	t_g	UK LS
[m]	[m]	[kN/m ²]	[kN/m]	[kN/m ²]	[cm]	[°]	[kN/m ²]	[kN/m ³]	[kN/m ²]	[m]	[m]
10.00	1.00	197.1	197.1	138.3	0.24 *	28.5 **	4.22	10.00	5.00	4.80	1.50
10.00	1.50	222.6	333.9	156.2	0.38 *	28.1 **	4.48	10.00	5.00	6.08	2.23
10.00	2.00	247.4	494.7	173.6	0.54 *	27.9 **	4.61	10.00	5.00	7.24	2.95
10.00	2.50	271.5	678.8	190.5	0.71 *	27.9 **	4.68	10.00	5.00	8.30	3.68
10.00	3.00	294.9	884.7	206.9	0.88 *	27.8 **	4.74	10.00	5.00	9.29	4.41
10.00	3.50	317.7	1111.9	222.9	1.07 *	27.7 **	4.77	10.00	5.00	10.21	5.14
10.00	4.00	339.7	1358.8	238.4	1.26 *	27.7 **	4.80	10.00	5.00	11.07	5.86
10.00	4.50	360.8	1623.6	253.2	1.45 *	27.7 **	4.82	10.00	5.00	11.89	6.59
10.00	5.00	381.3	1906.7	267.6	1.65 *	27.7 **	4.84	10.00	5.00	12.66	7.32
10.00	5.50	401.1	2206.2	281.5	1.85 *	27.7 **	4.86	10.00	5.00	13.38	8.04
10.00	6.00	420.2	2521.2	294.9	2.06 *	27.6 **	4.87	10.00	5.00	14.08	8.77
10.00	6.50	438.5	2850.5	307.7	2.26 *	27.6 **	4.88	10.00	5.00	14.74	9.50
10.00	7.00	456.2	3193.1	320.1	2.46 *	27.6 **	4.89	10.00	5.00	15.37	10.23
10.00	7.50	473.0	3547.7	332.0	2.66 *	27.6 **	4.89	10.00	5.00	15.97	10.95
10.00	8.00	489.2	3913.5	343.3	2.86 *	27.6 **	4.90	10.00	5.00	16.54	11.68

* Vorbelastung = 30.0 kN/m²
 ** phi wegen 5° Bedingung abgemindert
 $\sigma_{E,k} = \sigma_{of,k} / (\gamma_{R,v} \cdot \gamma_{(G,Q)}) = \sigma_{of,k} / (1.40 \cdot 1.43) = \sigma_{of,k} / 1.99$ (für Setzungen)
 Verhältnis Veränderliche(Q)/Gesamtlasten(G+Q) [-] = 0.50



Boden	γ [kN/m ³]	γ' [kN/m ³]	ϕ [°]	c [kN/m ²]	E_s [MN/m ²]	ν [-]	Bezeichnung
	18.0	8.0	20.0	0.0	2.0	0.00	Verwitterungslehm
	20.0	10.0	27.5	5.0	60.0	0.00	Konglomerat



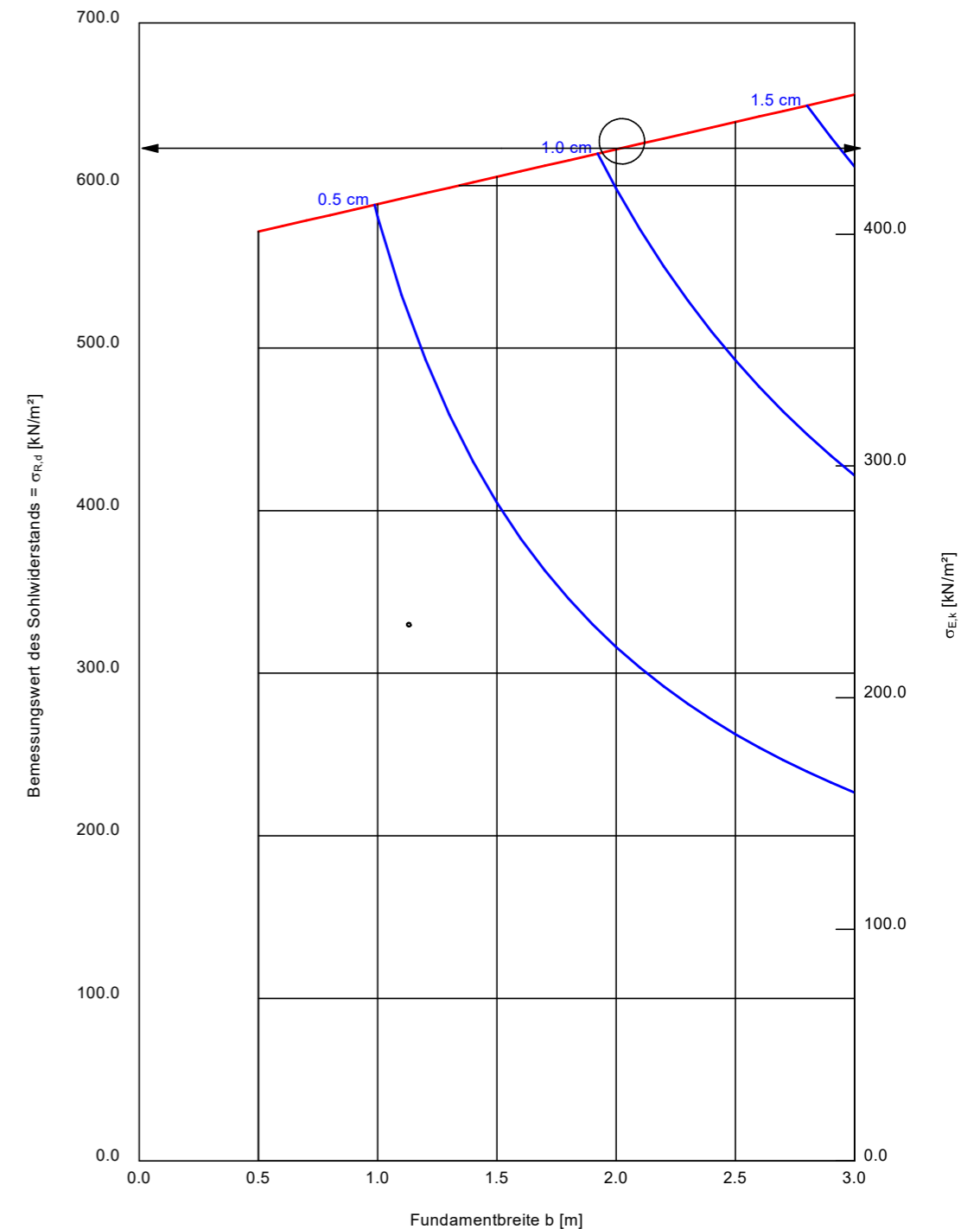
Berechnungsgrundlagen:
 Norm: EC 7
 Grundbruchformel nach DIN 4017:2006
 Teilsicherheitskonzept (EC 7)
 Einzelfundament (a/b = 1.00)
 $\gamma_{R,v} = 1.40$
 $\gamma_G = 1.35$
 $\gamma_Q = 1.50$
 Anteil Veränderliche Lasten = 0.500

$\gamma_{(G,Q)} = 0.500 \cdot \gamma_Q + (1 - 0.500) \cdot \gamma_G$
 $\gamma_{(G,Q)} = 1.425$
 $\sigma_{R,d}$ auf 1000.00 kN/m² begrenzt
 Gründungssohle = 3.00 m
 Grundwasser = 0.00 m
 Grenztiefe mit p = 20.0 %
 Grenztiefen spannungsvariabel bestimmt

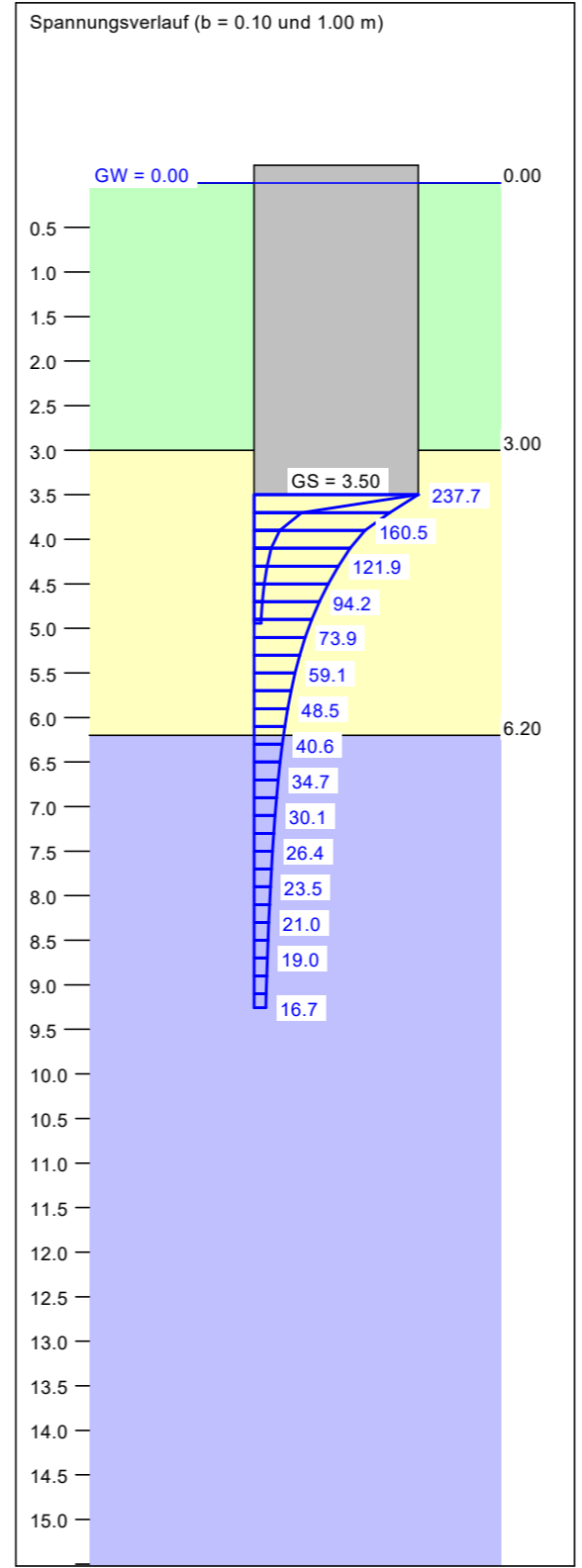
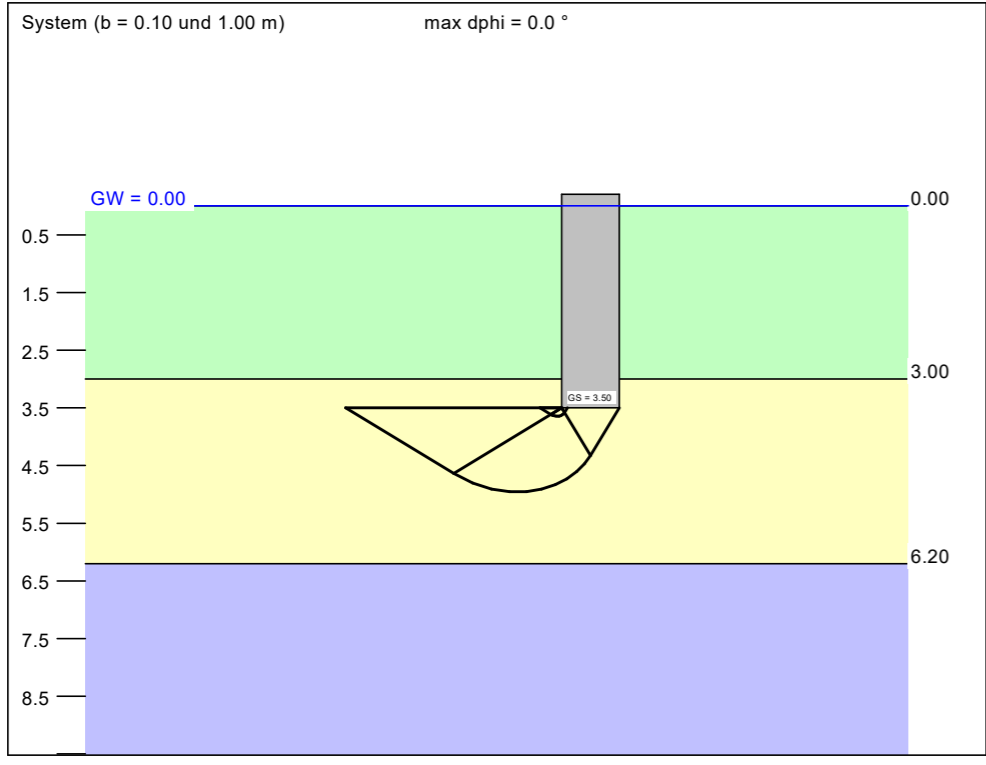
— Sohlldruck
 — Setzungen

a [m]	b [m]	$\sigma_{R,d}$ [kN/m ²]	$R_{n,d}$ [kN]	$\sigma_{E,k}$ [kN/m ²]	s [cm]	cal ϕ [°]	cal c [kN/m ²]	γ_2 [kN/m ³]	σ_0 [kN/m ²]	t_g [m]	UK LS [m]
0.50	0.50	571.7	142.9	401.2	0.25	27.5	5.00	10.00	29.00	5.22	3.73
0.60	0.60	575.1	207.0	403.6	0.30	27.5	5.00	10.00	29.00	5.57	3.87
0.70	0.70	578.4	283.4	405.9	0.35	27.5	5.00	10.00	29.00	5.90	4.02
0.80	0.80	581.8	372.4	408.3	0.40	27.5	5.00	10.00	29.00	6.22	4.16
0.90	0.90	585.2	474.0	410.6	0.46	27.5	5.00	10.00	29.00	6.53	4.31
1.00	1.00	588.5	588.5	413.0	0.51	27.5	5.00	10.00	29.00	6.84	4.45
1.10	1.10	591.9	716.2	415.4	0.56	27.5	5.00	10.00	29.00	7.13	4.60
1.20	1.20	595.3	857.2	417.7	0.61	27.5	5.00	10.00	29.00	7.42	4.75
1.30	1.30	598.6	1011.7	420.1	0.66	27.5	5.00	10.00	29.00	7.69	4.89
1.40	1.40	602.0	1179.9	422.5	0.72	27.5	5.00	10.00	29.00	7.97	5.04
1.50	1.50	605.4	1362.1	424.8	0.77	27.5	5.00	10.00	29.00	8.24	5.18
1.60	1.60	608.7	1558.4	427.2	0.82	27.5	5.00	10.00	29.00	8.50	5.33
1.70	1.70	612.1	1769.0	429.5	0.88	27.5	5.00	10.00	29.00	8.76	5.47
1.80	1.80	615.5	1994.1	431.9	0.93	27.5	5.00	10.00	29.00	9.01	5.62
1.90	1.90	618.8	2234.0	434.3	0.99	27.5	5.00	10.00	29.00	9.26	5.76
2.00	2.00	622.2	2488.8	436.6	1.04	27.5	5.00	10.00	29.00	9.51	5.91
2.10	2.10	625.6	2758.8	439.0	1.10	27.5	5.00	10.00	29.00	9.76	6.06
2.20	2.20	628.9	3044.1	441.4	1.15	27.5	5.00	10.00	29.00	10.00	6.20
2.30	2.30	632.3	3344.9	443.7	1.21	27.5	5.00	10.00	29.00	10.24	6.35
2.40	2.40	635.7	3661.5	446.1	1.27	27.5	5.00	10.00	29.00	10.47	6.49
2.50	2.50	639.0	3994.0	448.4	1.33	27.5	5.00	10.00	29.00	10.71	6.64
2.60	2.60	642.4	4342.7	450.8	1.38	27.5	5.00	10.00	29.00	10.94	6.78
2.70	2.70	645.8	4707.7	453.2	1.44	27.5	5.00	10.00	29.00	11.17	6.93
2.80	2.80	649.1	5089.3	455.5	1.50	27.5	5.00	10.00	29.00	11.39	7.07
2.90	2.90	652.5	5487.6	457.9	1.56	27.5	5.00	10.00	29.00	11.62	7.22
3.00	3.00	655.9	5902.9	460.3	1.62	27.5	5.00	10.00	29.00	11.84	7.36

$\sigma_{E,k} = \sigma_{0R,k} / (\gamma_{R,v} \cdot \gamma_{(G,Q)}) = \sigma_{0R,k} / (1.40 \cdot 1.43) = \sigma_{0R,k} / 1.99$ (für Setzungen)
 Verhältnis Veränderliche(Q)/Gesamlasten(G+Q) [-] = 0.50



Boden	γ [kN/m ³]	γ' [kN/m ³]	φ [°]	c [kN/m ²]	E_s [MN/m ²]	ν [-]	Bezeichnung
	18.0	8.0	20.0	0.0	2.0	0.00	Verwitterungslehm
	19.0	9.0	27.5	0.0	30.0	0.00	Moräne
	20.0	10.0	27.5	5.0	60.0	0.00	Geschiebemergel

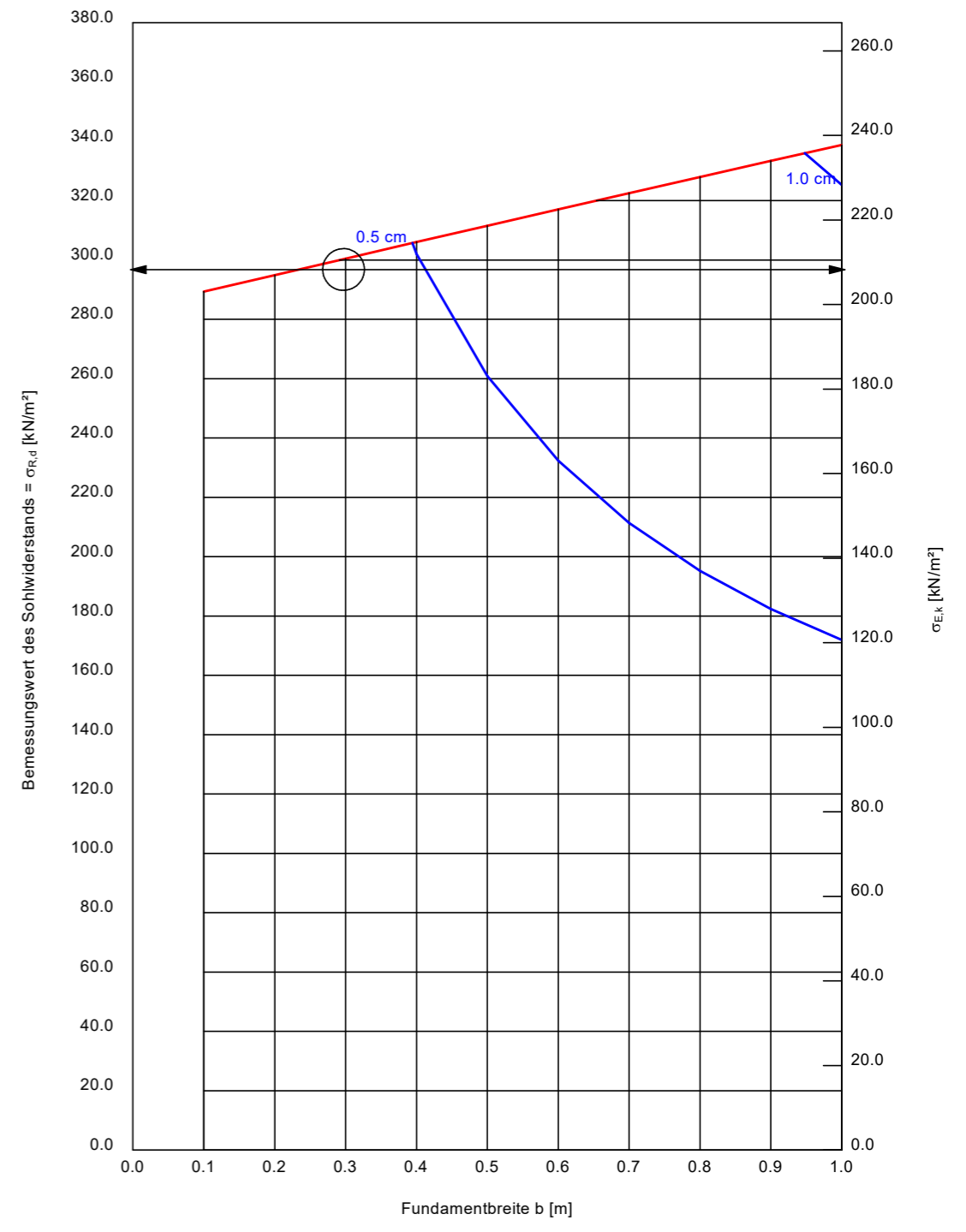


Berechnungsgrundlagen:
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 Teilsicherheitskonzept (EC 7)
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 $\gamma_{R,v} = 1.40$
 $\gamma_G = 1.35$
 $\gamma_Q = 1.50$
 Anteil Veränderliche Lasten = 0.500

$\gamma_{(G,Q)} = 0.500 \cdot \gamma_Q + (1 - 0.500) \cdot \gamma_G$
 $\gamma_{(G,Q)} = 1.425$
 Gründungssohle = 3.50 m
 Grundwasser = 0.00 m
 Grenztiefe mit p = 20.0 %
 Grenztiefen spannungsvariabel bestimmt

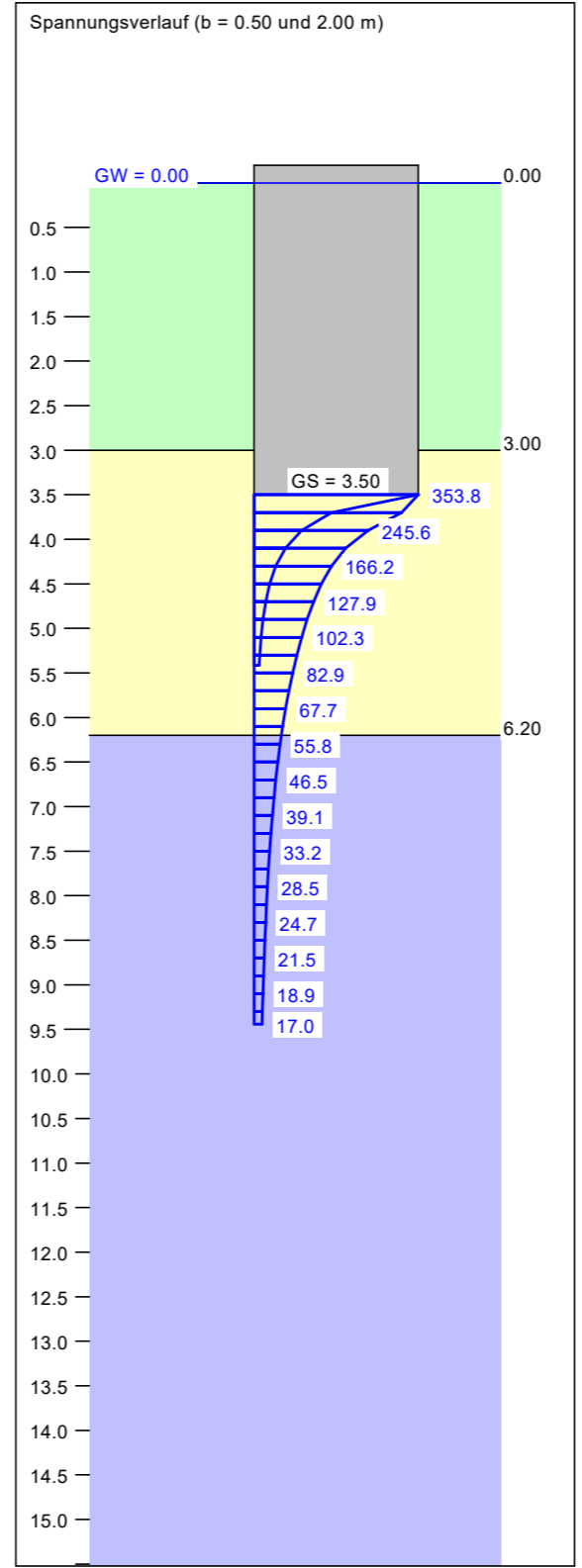
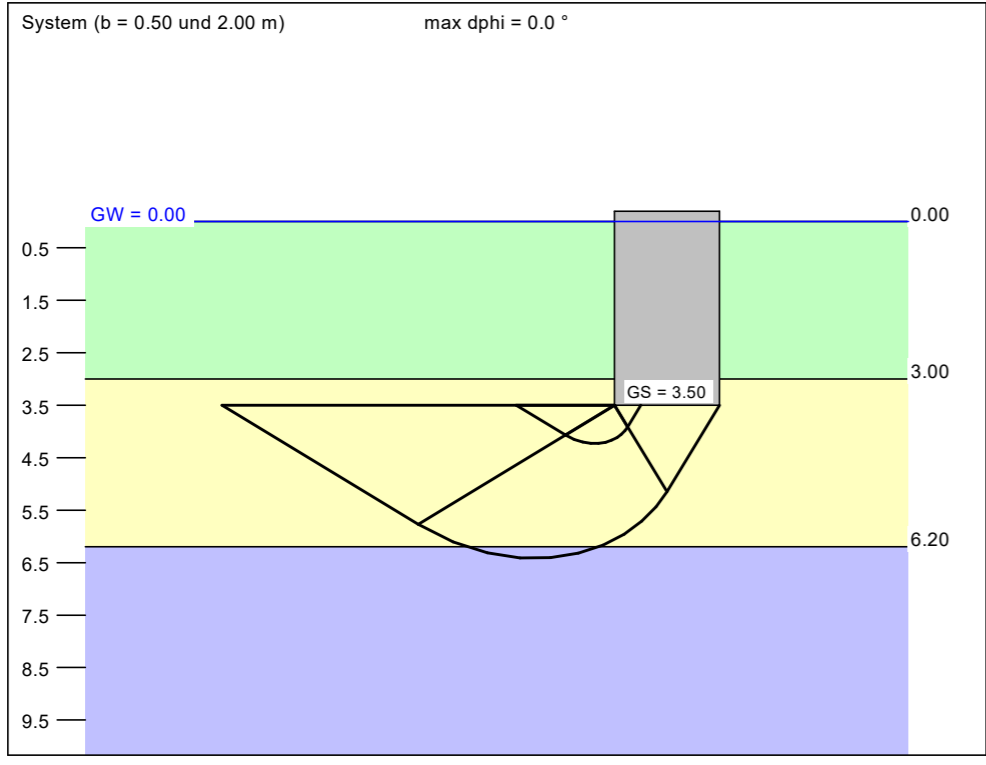
— Sohlldruck
 — Setzungen

a	b	$\sigma_{R,d}$	$R_{n,d}$	$\sigma_{E,k}$	s	cal φ	cal c	γ_2	$\sigma_{\dot{u}}$	t_g	UK LS
[m]	[m]	[kN/m ²]	[kN/m]	[kN/m ²]	[cm]	[°]	[kN/m ²]	[kN/m ³]	[kN/m ²]	[m]	[m]
10.00	0.10	289.3	28.9	203.0	0.15	27.5	0.00	9.00	28.50	4.94	3.65
10.00	0.20	294.9	59.0	207.0	0.28	27.5	0.00	9.00	28.50	5.76	3.79
10.00	0.30	300.5	90.1	210.9	0.40	27.5	0.00	9.00	28.50	6.39	3.94
10.00	0.40	306.0	122.4	214.8	0.51	27.5	0.00	9.00	28.50	6.91	4.08
10.00	0.50	311.6	155.8	218.6	0.61	27.5	0.00	9.00	28.50	7.38	4.23
10.00	0.60	317.1	190.2	222.5	0.70	27.5	0.00	9.00	28.50	7.80	4.37
10.00	0.70	322.5	225.8	226.3	0.79	27.5	0.00	9.00	28.50	8.20	4.52
10.00	0.80	328.0	262.4	230.2	0.88	27.5	0.00	9.00	28.50	8.57	4.66
10.00	0.90	333.4	300.1	234.0	0.96	27.5	0.00	9.00	28.50	8.92	4.81
10.00	1.00	338.8	338.8	237.7	1.04	27.5	0.00	9.00	28.50	9.26	4.95



$\sigma_{E,k} = \sigma_{01,k} / (\gamma_{R,v} \cdot \gamma_{(G,Q)}) = \sigma_{01,k} / (1.40 \cdot 1.43) = \sigma_{01,k} / 1.99$ (für Setzungen)
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Boden	γ [kN/m ³]	γ' [kN/m ³]	ϕ [°]	c [kN/m ²]	E_s [MN/m ²]	ν [-]	Bezeichnung
	18.0	8.0	20.0	0.0	2.0	0.00	Verwitterungslehm
	19.0	9.0	27.5	0.0	30.0	0.00	Moräne
	20.0	10.0	27.5	5.0	60.0	0.00	Geschiebemergel



Berechnungsgrundlagen:
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 $\gamma_{R,v} = 1.40$
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$\gamma_{(G,Q)} = 0.500 \cdot \gamma_Q + (1 - 0.500) \cdot \gamma_G$
 $\gamma_{(G,Q)} = 1.425$
 Gründungssohle = 3.50 m
 Grundwasser = 0.00 m
 Grenztiefe mit $p = 20.0\%$
 Grenztiefen spannungsvariabel bestimmt

— Sohlldruck
 — Setzungen

a [m]	b [m]	$\sigma_{R,d}$ [kN/m ²]	$R_{n,d}$ [kN]	$\sigma_{E,k}$ [kN/m ²]	s [cm]	cal ϕ [°]	cal c [kN/m ²]	γ_2 [kN/m ³]	$\sigma_{\dot{u}}$ [kN/m ²]	t_g [m]	UK LS [m]
0.50	0.50	429.8	107.5	301.6	0.37	27.5	0.00	9.00	28.50	5.41	4.23
0.60	0.60	432.9	155.8	303.8	0.45	27.5	0.00	9.00	28.50	5.73	4.37
0.70	0.70	435.9	213.6	305.9	0.52	27.5	0.00	9.00	28.50	6.04	4.52
0.80	0.80	438.9	280.9	308.0	0.60	27.5	0.00	9.00	28.50	6.33	4.66
0.90	0.90	442.0	358.0	310.2	0.67	27.5	0.00	9.00	28.50	6.61	4.81
1.00	1.00	445.0	445.0	312.3	0.73	27.5	0.00	9.00	28.50	6.88	4.95
1.10	1.10	448.0	542.1	314.4	0.80	27.5	0.00	9.00	28.50	7.14	5.10
1.20	1.20	451.1	649.5	316.5	0.87	27.5	0.00	9.00	28.50	7.40	5.25
1.30	1.30	454.1	767.4	318.7	0.94	27.5	0.00	9.00	28.50	7.65	5.39
1.40	1.40	457.1	895.9	320.8	1.01	27.5	0.00	9.00	28.50	7.90	5.54
1.50	1.50	460.1	1035.3	322.9	1.07	27.5	0.00	9.00	28.50	8.14	5.68
1.60	1.60	463.2	1185.7	325.0	1.14	27.5	0.00	9.00	28.50	8.38	5.83
1.70	1.70	466.2	1347.3	327.2	1.20	27.5	0.00	9.00	28.50	8.62	5.97
1.80	1.80	469.2	1520.3	329.3	1.27	27.5	0.00	9.00	28.50	8.85	6.12
1.90	1.90	488.7	1764.3	343.0	1.38	27.5	0.62	9.00	28.50	9.15	6.26
2.00	2.00	504.2	2016.8	353.8	1.49	27.5	1.08	9.02	28.50	9.44	6.41

$\sigma_{E,k} = \sigma_{01,k} / (\gamma_{R,v} \cdot \gamma_{(G,Q)}) = \sigma_{01,k} / (1.40 \cdot 1.43) = \sigma_{01,k} / 1.99$ (für Setzungen)
 Verhältnis Veränderliche(Q)/Gesamtlasten(G+Q) [-] = 0.50

