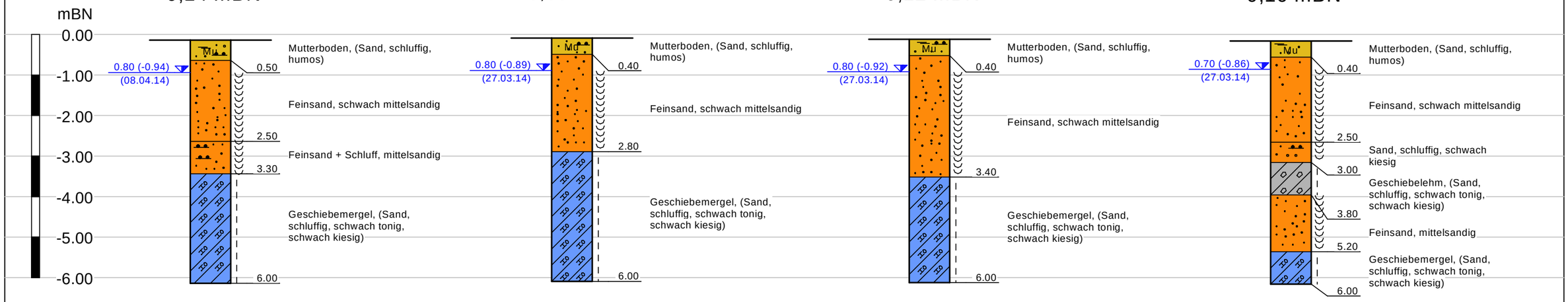
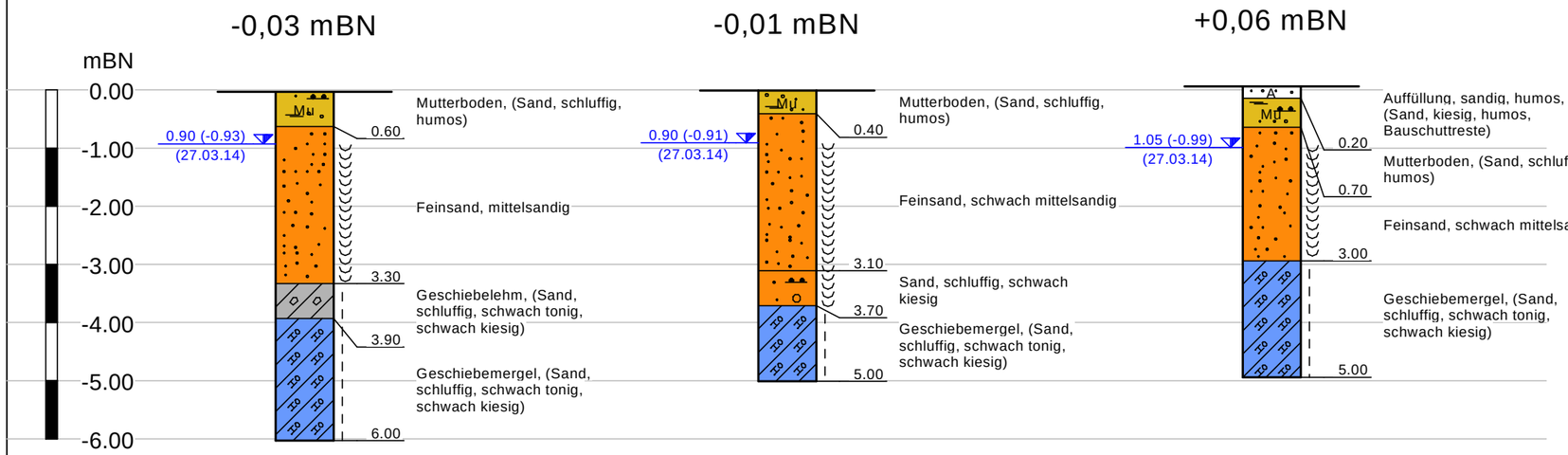
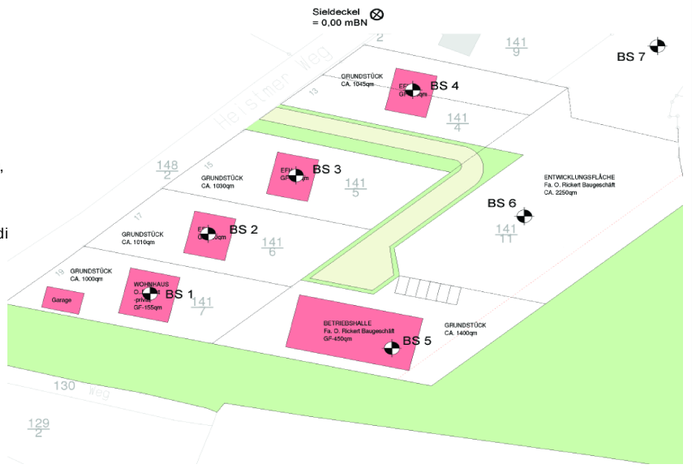
Projekt-Nr.: 1041/14
Anlage: 1







Legende

steif

naß

2,45 ▽ 30.04.98 GW angebohrt

2,45 ▽ 30.04.98 GW Bohrende

Beratende Ingenieure und Geologen
Rohde und Schlesch
Pinneberger Str. 5b, 25436 Tornesch
Tel. 04122 / 960 399 Fax: 960 402

Projekt.-Nr.: 1041/14
Anlage: 1

MdH = 1:100

17.04.14

Datei: BS 1-7.bop

BV Heistmer Weg
25436 Moorrege

Bodenprofile BS1 - BS7

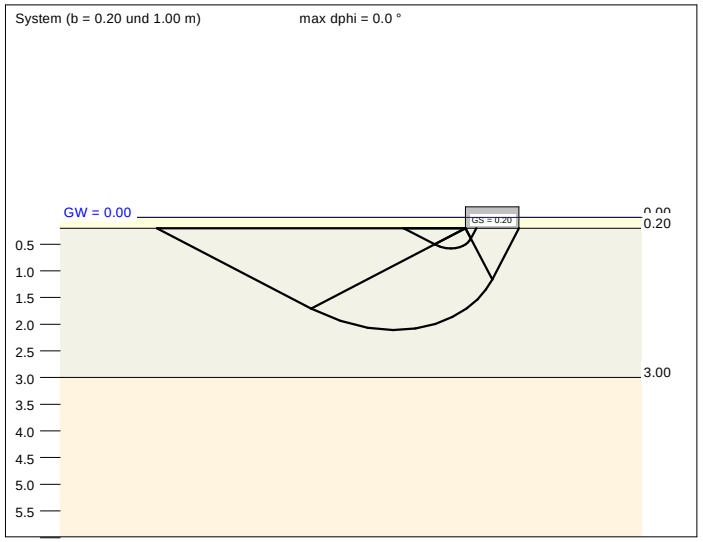
Sohldruck und Setzung Streifenfundamente d = 20 cm BV Heistmer Weg Moorrege						Bericht Nr.	1041/14
						Anlage Nr.	2.1

Boden	γ [kN/m³]	γ' [kN/m³]	φ [°]	c [kN/m²]	E_s [MN/m²]	ν [-]	Bezeichnung
	25.0	15.0	0.0	0.0	100.0	0.00	Beton
	19.0	11.0	35.0	0.0	40.0	0.00	Sand
	22.0	12.0	30.0	10.0	40.0	0.00	Gmg

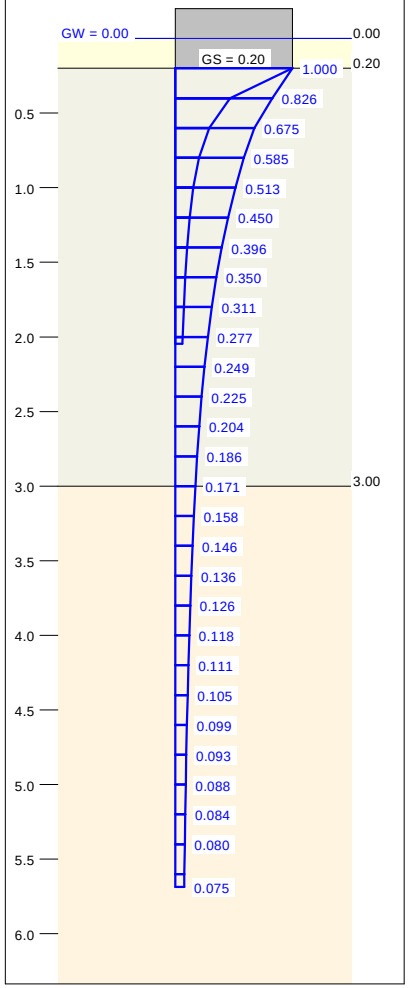
Berechnungsgrundlagen:
Beispiel "Mehrere Fundamente"
Grundbruchformel nach DIN 4017:2006
Teilsicherheitskonzept (EC 7)
Streifenfundament (a = 10.00 m)
γ_{Gr} = 1.40
γ_G = 1.35
γ_Q = 1.50
$\gamma_{(G,Q)} = 0.330 \cdot \gamma_Q + (1 - 0.330) \cdot \gamma_G$
$\gamma_{(G,Q)}$ = 1.399

Anteil Veränderliche Lasten = 0.330
Gründungssohle = 0.20 m
Grundwasser = 0.00 m
Grenztiefe mit p = 20.0 %
Sohldruck
Setzungen

System (b = 0.20 und 1.00 m) max dphi = 0.0 °

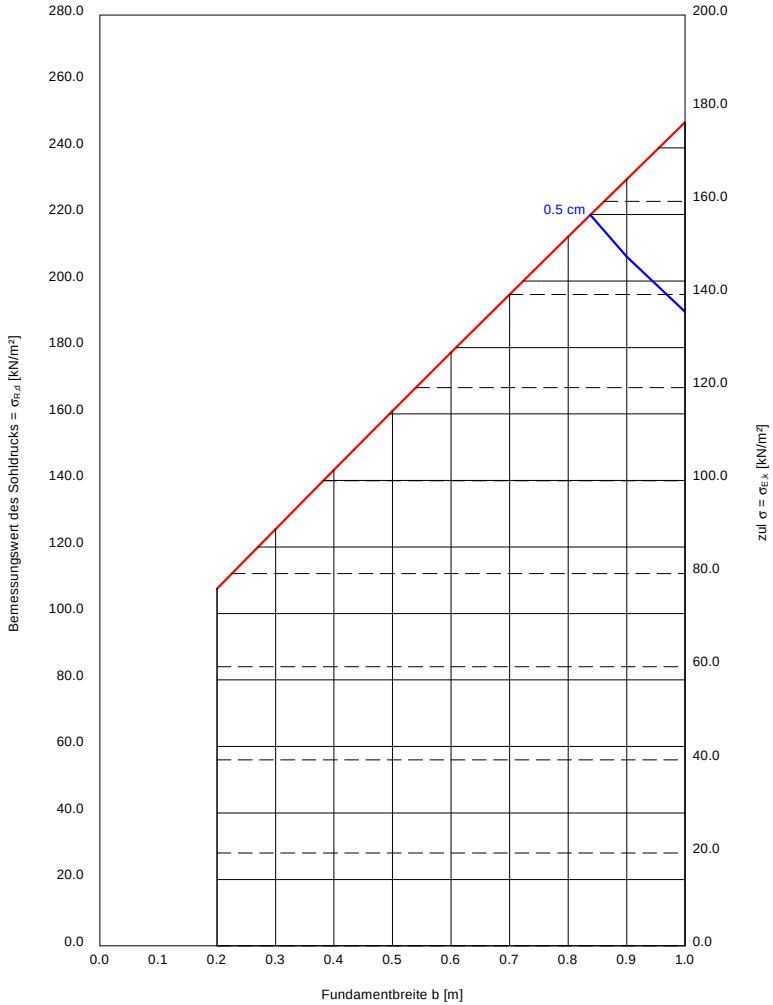


Spannungsverlauf (b = 0.20 und 1.00 m)



a [m]	b [m]	$\sigma_{0t,k}$ [kN/m²]	$\sigma_{R,d}$ [kN/m²]	$R_{n,d}$ [kN/m]	zul σ/$\sigma_{E,k}$ [kN/m²]	s [cm]	cal φ [°]	cal c [kN/m²]	γ_2 [kN/m³]	$\sigma_{\ddot{U}}$ [kN/m²]	t_g [m]	UK LS [m]
10.00	0.20	150.5	107.5	21.5	76.8	0.07	35.0	0.00	11.00	3.00	2.05	0.58
10.00	0.30	175.6	125.4	37.6	89.6	0.12	35.0	0.00	11.00	3.00	2.60	0.77
10.00	0.40	200.5	143.2	57.3	102.3	0.18	35.0	0.00	11.00	3.00	3.10	0.96
10.00	0.50	225.3	160.9	80.5	115.0	0.24	35.0	0.00	11.00	3.00	3.57	1.15
10.00	0.60	249.9	178.5	107.1	127.5	0.31	35.0	0.00	11.00	3.00	4.01	1.34
10.00	0.70	274.4	196.0	137.2	140.0	0.39	35.0	0.00	11.00	3.00	4.45	1.54
10.00	0.80	298.7	213.4	170.7	152.5	0.47	35.0	0.00	11.00	3.00	4.87	1.73
10.00	0.90	322.9	230.6	207.6	164.8	0.56	35.0	0.00	11.00	3.00	5.28	1.92
10.00	1.00	346.9	247.8	247.8	177.1	0.65	35.0	0.00	11.00	3.00	5.69	2.11

zul σ = $\sigma_{E,k}$ = $\sigma_{0t,k}$ / ($\gamma_{Gr} \cdot \gamma_{(G,Q)}$) = $\sigma_{0t,k}$ / (1.40 · 1.40) = $\sigma_{0t,k}$ / 1.96 (für Setzungen)
Verhältnis Veränderliche(Q)/Gesamtlasten(G+Q) [-] = 0.33



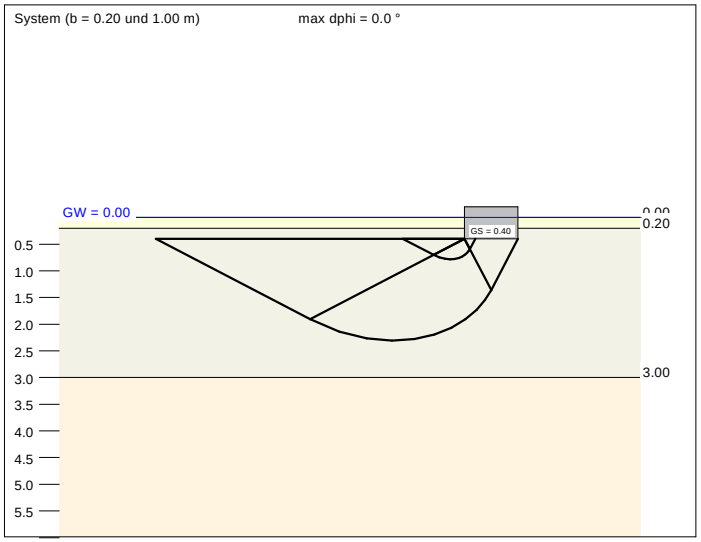
Boden	γ [kN/m³]	γ' [kN/m³]	φ [°]	c [kN/m²]	E_s [MN/m²]	ν [-]	Bezeichnung
	25.0	15.0	0.0	0.0	100.0	0.00	Beton
	19.0	11.0	35.0	0.0	40.0	0.00	Sand
	22.0	12.0	30.0	10.0	40.0	0.00	Gmg

Sohldruck und Setzung
Streifenfundamente d = 40 cm
BV Heistmer Weg Moorrege

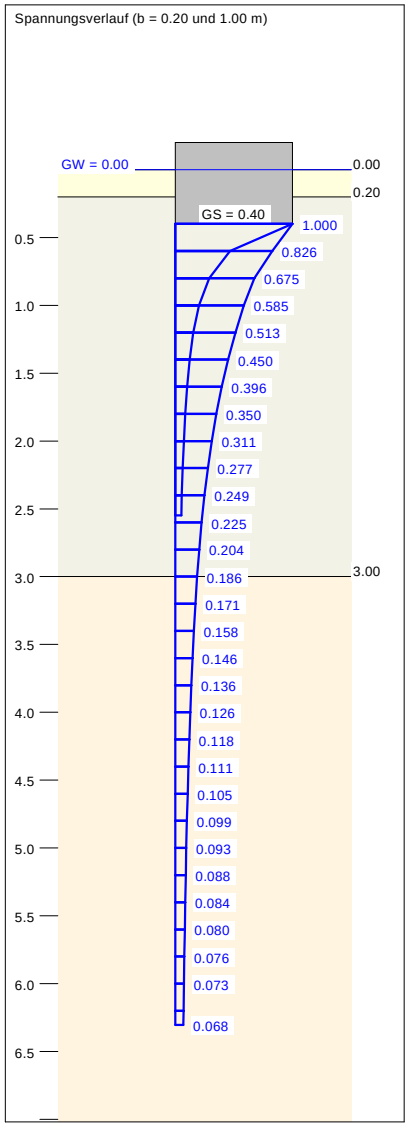
Bericht Nr. 1041/14

Anlage Nr. 2.2

System (b = 0.20 und 1.00 m) max dphi = 0.0 °

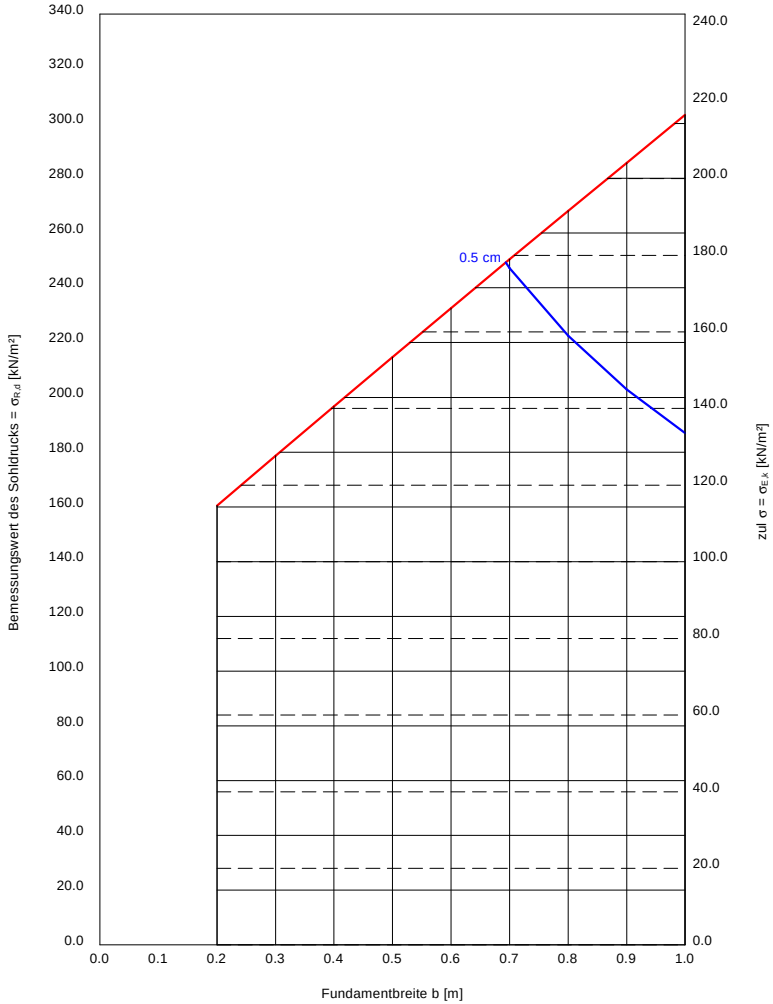


Spannungsverlauf (b = 0.20 und 1.00 m)



Berechnungsgrundlagen:
Beispiel "Mehrere Fundamente"
Grundbruchformel nach DIN 4017:2006
Teilsicherheitskonzept (EC 7)
Streifenfundament (a = 10.00 m)
γ_{Gr} = 1.40
γ_G = 1.35
γ_Q = 1.50
$\gamma_{(G,Q)} = 0.330 \cdot \gamma_Q + (1 - 0.330) \cdot \gamma_G$
$\gamma_{(G,Q)}$ = 1.399

Anteil Veränderliche Lasten = 0.330
Gründungssohle = 0.40 m
Grundwasser = 0.00 m
Grenztiefe mit p = 20.0 %
Sohldruck
Setzungen



a [m]	b [m]	$\sigma_{0t,k}$ [kN/m²]	$\sigma_{R,d}$ [kN/m²]	$R_{n,d}$ [kN/m]	zul σ/$\sigma_{E,k}$ [kN/m²]	s [cm]	cal φ [°]	cal c [kN/m²]	γ_2 [kN/m³]	$\sigma_{\ddot{U}}$ [kN/m²]	t_g [m]	UK LS [m]
10.00	0.20	224.6	160.4	32.1	114.6	0.12	35.0	0.00	11.00	5.20	2.55	0.78
10.00	0.30	250.1	178.6	53.6	127.6	0.18	35.0	0.00	11.00	5.20	3.14	0.97
10.00	0.40	275.4	196.7	78.7	140.6	0.25	35.0	0.00	11.00	5.20	3.65	1.16
10.00	0.50	300.6	214.7	107.4	153.4	0.33	35.0	0.00	11.00	5.20	4.14	1.35
10.00	0.60	325.7	232.6	139.6	166.2	0.42	35.0	0.00	11.00	5.20	4.60	1.54
10.00	0.70	350.6	250.4	175.3	178.9	0.51	35.0	0.00	11.00	5.20	5.05	1.74
10.00	0.80	375.3	268.1	214.5	191.6	0.60	35.0	0.00	11.00	5.20	5.48	1.93
10.00	0.90	399.9	285.7	257.1	204.1	0.70	35.0	0.00	11.00	5.20	5.90	2.12
10.00	1.00	424.4	303.1	303.1	216.6	0.81	35.0	0.00	11.00	5.20	6.30	2.31

zul σ = $\sigma_{E,k} = \sigma_{0t,k} / (\gamma_{Gr} \cdot \gamma_{(G,Q)}) = \sigma_{0t,k} / (1.40 \cdot 1.40) = \sigma_{0t,k} / 1.96$ (für Setzungen)
Verhältnis Veränderliche(Q)/Gesamtlasten(G+Q) [-] = 0.33

Boden	γ [kN/m³]	γ' [kN/m³]	φ [°]	c [kN/m²]	E_s [MN/m²]	ν [-]	Bezeichnung
	19.0	11.0	35.0	0.0	40.0	0.00	Sand
	22.0	12.0	30.0	10.0	40.0	0.00	Gmg

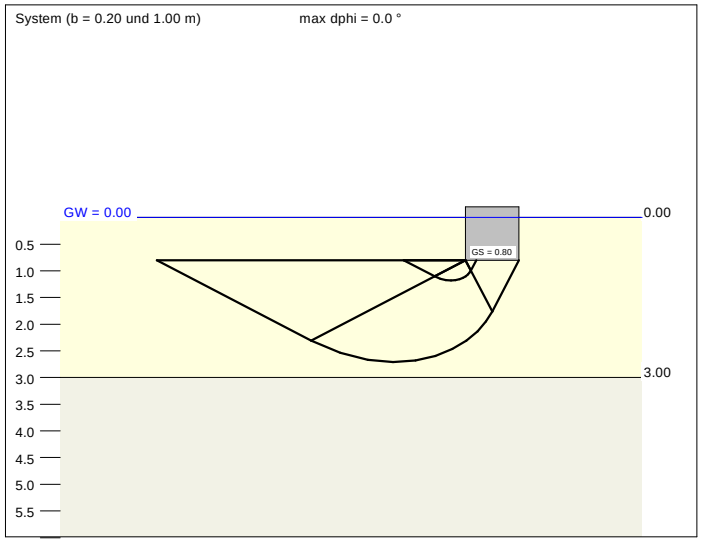
Sohldruck und Setzung
Streifenfundamente d = 80 cm
BV Heistmer Weg Moorrege

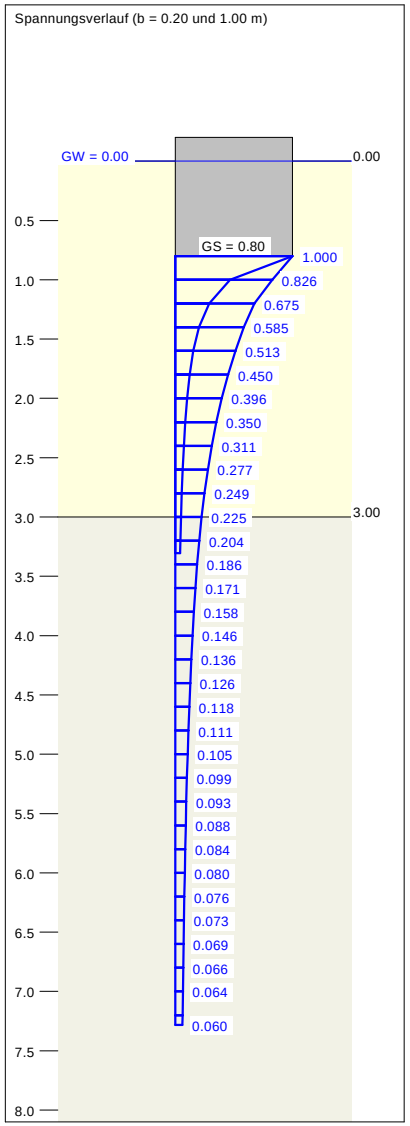
Bericht Nr. 1041/14

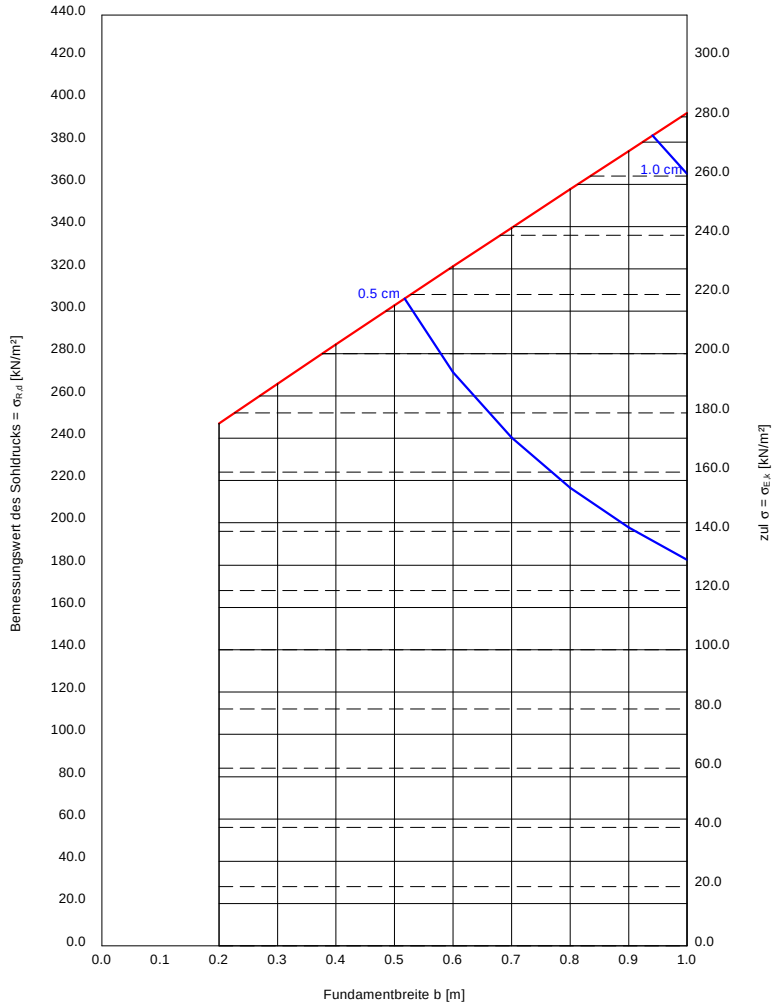
Anlage Nr. 2.3

Berechnungsgrundlagen:
Beispiel "Mehrere Fundamente"
Grundbruchformel nach DIN 4017:2006
Teilsicherheitskonzept (EC 7)
Streifenfundament (a = 10.00 m)
γ_{Gr} = 1.40
γ_G = 1.35
γ_Q = 1.50
$\gamma_{(G,Q)} = 0.330 \cdot \gamma_Q + (1 - 0.330) \cdot \gamma_G$
$\gamma_{(G,Q)}$ = 1.399

Anteil Veränderliche Lasten = 0.330
Gründungssohle = 0.80 m
Grundwasser = 0.00 m
Grenztiefe mit p = 20.0 %
Sohldruck
Setzungen







a [m]	b [m]	$\sigma_{Gr,k}$ [kN/m²]	$\sigma_{R,d}$ [kN/m²]	$R_{n,d}$ [kN/m]	zul σ/$\sigma_{E,k}$ [kN/m²]	s [cm]	cal φ [°]	cal c [kN/m²]	γ_2 [kN/m³]	$\sigma_{\ddot{U}}$ [kN/m²]	t_g [m]	UK LS [m]
10.00	0.20	345.8	247.0	49.4	176.5	0.19	35.0	0.00	11.00	8.80	3.31	1.18
10.00	0.30	372.0	265.7	79.7	189.9	0.28	35.0	0.00 I	11.00	8.80	3.94	1.37
10.00	0.40	398.0	284.3	113.7	203.2	0.38	35.0	0.00	11.00	8.80	4.50	1.56
10.00	0.50	423.9	302.8	151.4	216.4	0.48	35.0	0.00	11.00	8.80	5.02	1.75
10.00	0.60	449.7	321.2	192.7	229.5	0.59	35.0	0.00	11.00	8.80	5.51	1.94
10.00	0.70	475.2	339.5	237.6	242.6	0.71	35.0	0.00	11.00	8.80	5.98	2.14
10.00	0.80	500.7	357.6	286.1	255.5	0.83	35.0	0.00	11.00	8.80	6.43	2.33
10.00	0.90	526.0	375.7	338.1	268.4	0.95	35.0	0.00	11.00	8.80	6.86	2.52
10.00	1.00	551.1	393.6	393.6	281.3	1.08	35.0	0.00	11.00	8.80	7.28	2.71

zul $\sigma = \sigma_{E,k} = \sigma_{Gr,k} / (\gamma_{Gr} \cdot \gamma_{(G,Q)}) = \sigma_{Gr,k} / (1.40 \cdot 1.40) = \sigma_{Gr,k} / 1.96$ (für Setzungen)
Verhältnis Veränderliche(Q)/Gesamtlasten(G+Q) [-] = 0.33