Boden	γ [kN/m³]	γ ' [kN/m³]	φ [°]	c [kN/m²]	E_s [MN/m²]	ν [-]	Bezeichnung
	18.0	8.0	22.5	0.0	2.0	0.00	Auffüllung
	20.0	10.0	35.0	0.0	80.0	0.00	Kies

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Achenweg 3
83101 Rohrdorf
08032/91220

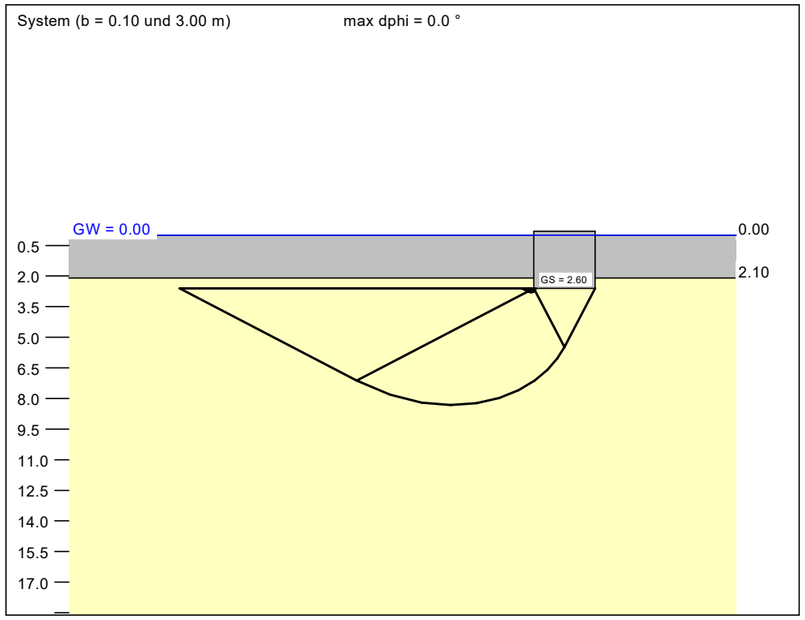
Neufinsing
Kastanienweg FINr 609
mit Keller - Brunnengründung
EinbindeTiefe 2,6 m

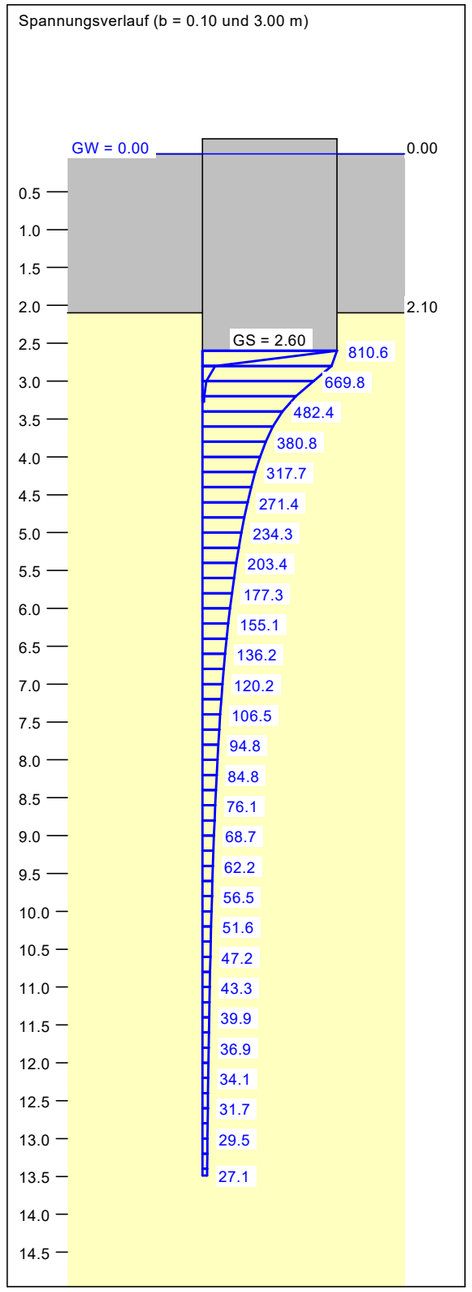
AZ: 19-10-01

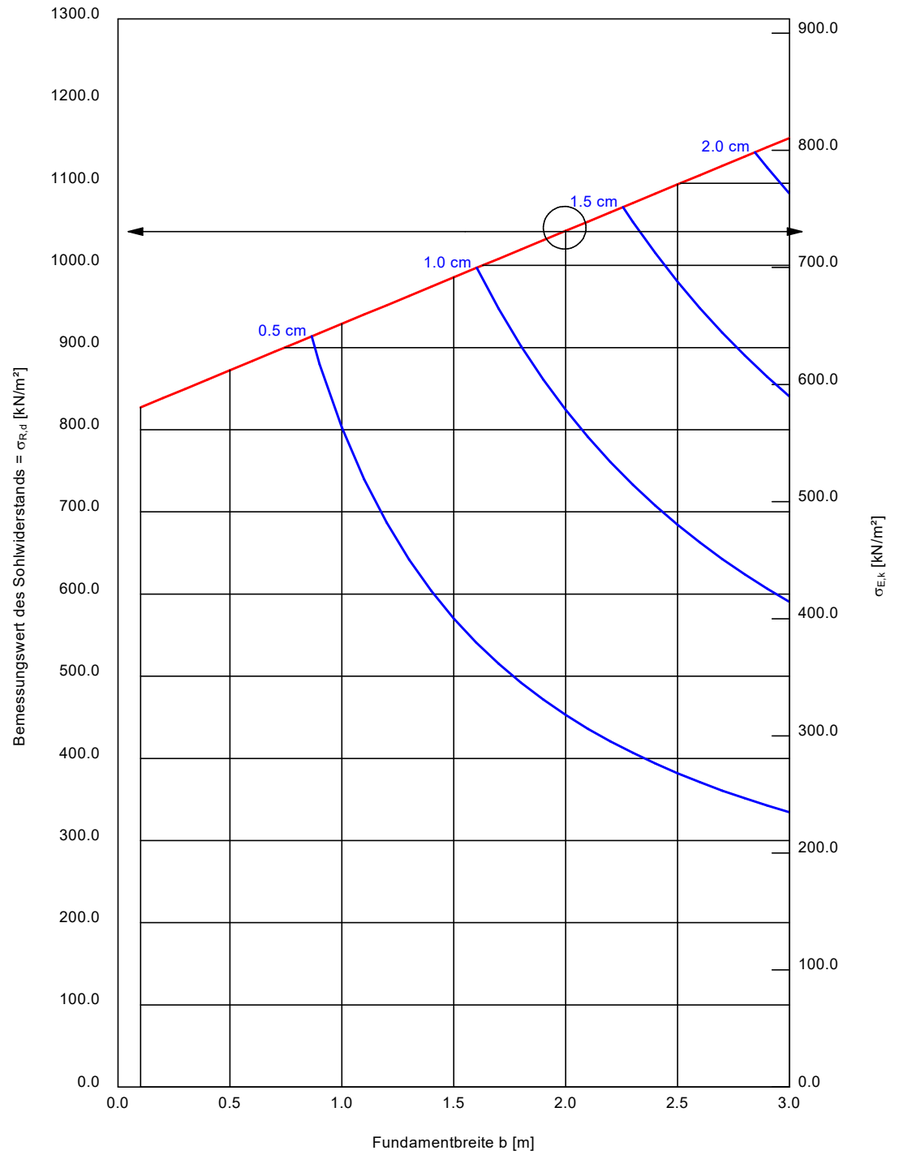
Anlage 4.1

Berechnungsgrundlagen:
Norm: EC 7
Grundbruchformel nach DIN 4017:2006
Teilsicherheitskonzept (EC 7)
Einzelfundament (a/b = 1.00)
$\gamma_{R,v}$ = 1.40
γ_G = 1.35
γ_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 = 2.60 m
Grundwasser = 0.00 m
Vorbelastung = 30.0 kN/m²
Grenztiefe mit p = 20.0 %
Grenztiefen spannungsvariabel bestimmt
Sohldruck
Setzungen







a [m]	b [m]	$\sigma_{R,d}$ [kN/m²]	$R_{n,d}$ [kN]	$\sigma_{E,k}$ [kN/m²]	s [cm]	cal φ [°]	cal c [kN/m²]	γ_2 [kN/m³]	σ ü [kN/m²]	t_g [m]	UK LS [m]
0.10	0.10	827.2	8.3	580.5	0.05 *	35.0	0.00	10.00	21.80	3.27	2.79
0.20	0.20	838.5	33.5	588.4	0.11 *	35.0	0.00	10.00	21.80	3.83	2.98
0.30	0.30	849.8	76.5	596.3	0.16 *	35.0	0.00	10.00	21.80	4.33	3.17
0.40	0.40	861.1	137.8	604.3	0.22 *	35.0	0.00	10.00	21.80	4.80	3.36
0.50	0.50	872.4	218.1	612.2	0.28 *	35.0	0.00	10.00	21.80	5.23	3.55
0.60	0.60	883.7	318.1	620.1	0.34 *	35.0	0.00	10.00	21.80	5.65	3.74
0.70	0.70	895.0	438.5	628.1	0.40 *	35.0	0.00	10.00	21.80	6.05	3.94
0.80	0.80	906.3	580.0	636.0	0.46 *	35.0	0.00	10.00	21.80	6.43	4.13
0.90	0.90	917.6	743.3	643.9	0.52 *	35.0	0.00	10.00	21.80	6.81	4.32
1.00	1.00	928.9	928.9	651.9	0.59 *	35.0	0.00	10.00	21.80	7.17	4.51
1.10	1.10	940.2	1137.7	659.8	0.65 *	35.0	0.00	10.00	21.80	7.53	4.70
1.20	1.20	951.5	1370.2	667.7	0.72 *	35.0	0.00	10.00	21.80	7.88	4.89
1.30	1.30	962.8	1627.2	675.7	0.79 *	35.0	0.00	10.00	21.80	8.22	5.08
1.40	1.40	974.1	1909.3	683.6	0.86 *	35.0	0.00	10.00	21.80	8.55	5.27
1.50	1.50	985.5	2217.3	691.5	0.93 *	35.0	0.00	10.00	21.80	8.89	5.46
1.60	1.60	996.8	2551.7	699.5	1.00 *	35.0	0.00	10.00	21.80	9.21	5.65
1.70	1.70	1008.1	2913.3	707.4	1.07 *	35.0	0.00	10.00	21.80	9.54	5.84
1.80	1.80	1019.4	3302.8	715.4	1.15 *	35.0	0.00	10.00	21.80	9.85	6.03
1.90	1.90	1030.7	3720.8	723.3	1.22 *	35.0	0.00	10.00	21.80	10.17	6.22
2.00	2.00	1042.0	4168.0	731.2	1.30 *	35.0	0.00	10.00	21.80	10.48	6.42
2.10	2.10	1053.3	4645.0	739.2	1.38 *	35.0	0.00	10.00	21.80	10.79	6.61
2.20	2.20	1064.6	5152.7	747.1	1.46 *	35.0	0.00	10.00	21.80	11.10	6.80
2.30	2.30	1075.9	5691.6	755.0	1.54 *	35.0	0.00	10.00	21.80	11.41	6.99
2.40	2.40	1087.2	6262.4	763.0	1.62 *	35.0	0.00	10.00	21.80	11.71	7.18
2.50	2.50	1098.5	6865.8	770.9	1.70 *	35.0	0.00	10.00	21.80	12.01	7.37
2.60	2.60	1109.8	7502.5	778.8	1.79 *	35.0	0.00	10.00	21.80	12.31	7.56
2.70	2.70	1121.1	8173.1	786.8	1.87 *	35.0	0.00	10.00	21.80	12.61	7.75
2.80	2.80	1132.4	8878.4	794.7	1.96 *	35.0	0.00	10.00	21.80	12.90	7.94
2.90	2.90	1143.8	9618.9	802.6	2.05 *	35.0	0.00	10.00	21.80	13.19	8.13
3.00	3.00	1155.1	10395.5	810.6	2.14 *	35.0	0.00	10.00	21.80	13.49	8.32

* Vorbelastung = 30.0 kN/m²

$\sigma_{E,k} = \sigma_{0f,k} / (\gamma_{R,v} \cdot \gamma_{(G,Q)}) = \sigma_{0f,k} / (1.40 \cdot 1.43) = \sigma_{0f,k} / 1.99$ (für Setzungen)

Verhältnis Veränderliche(Q)/Gesamtlasten(G+Q) [-] = 0.50