

**TABLE 6 DESIGN LOAD CALCULATION FOR DN 300mmSS**

DATA: Crushing strength = 48 kN/m; Unit weight of backfill = 19.6 kN/m<sup>3</sup>; Ext. dia. = 351mm  
 Ku' = 0.13; Ku = 0.19; r<sub>sd</sub>p = 0.7; Traffic load = 112.5 kN; Factor of Safety = 1.25

Trench cover m	Design load kN/m	Bedding factor	Design load kN/m	Bedding factor	Design load kN/m	Bedding factor	Design load kN/m	Bedding factor
0.6	48.47	1.26	48.47	1.26	48.47	1.26	48.47	1.26
0.7	43.59	1.14	43.59	1.14	43.59	1.14	43.59	1.14
0.8	40.47	1.05	40.47	1.05	40.47	1.05	40.47	1.05
0.9	31.21	0.81	31.21	0.81	31.21	0.81	31.21	0.81
1.0	36.70	0.96	36.70	0.96	36.70	0.96	36.70	0.96
1.1	35.65	0.93	35.65	0.93	35.65	0.93	35.65	0.93
1.2	34.95	0.91	34.95	0.91	34.95	0.91	34.95	0.91
1.3	34.57	0.90	34.57	0.90	34.57	0.90	34.57	0.90
1.4	34.40	0.90	34.40	0.90	34.40	0.90	34.40	0.90
1.5	34.37	0.90	34.37	0.90	34.37	0.90	34.37	0.90
1.6	34.48	0.90	34.48	0.90	34.48	0.90	34.48	0.90
1.7	34.70	0.90	34.70	0.90	34.70	0.90	34.70	0.90
1.8	35.02	0.91	35.02	0.91	35.02	0.91	35.02	0.91
1.9	35.38	0.92	35.38	0.92	35.38	0.92	35.38	0.92
2.0	35.81	0.93	35.81	0.93	35.81	0.93	35.81	0.93
2.1	36.30	0.95	36.30	0.95	36.30	0.95	36.30	0.95
2.2	36.80	0.96	36.80	0.96	36.80	0.96	36.80	0.96
2.3	37.37	0.97	37.37	0.97	37.37	0.97	37.37	0.97
2.4	37.93	0.99	37.93	0.99	37.93	0.99	37.93	0.99
2.5	38.55	1.00	38.55	1.00	38.55	1.00	38.55	1.00
2.6	39.17	1.02	39.17	1.02	39.17	1.02	39.17	1.02
2.7	39.85	1.04	39.85	1.04	39.85	1.04	39.85	1.04
2.8	40.52	1.06	40.52	1.06	40.52	1.06	40.52	1.06
2.9	41.24	1.07	41.24	1.07	41.24	1.07	41.24	1.07
3.0	41.97	1.09	41.97	1.09	41.97	1.09	41.97	1.09
3.1	42.71	1.11	42.71	1.11	42.71	1.11	42.71	1.11
3.2	43.46	1.13	43.46	1.13	43.46	1.13	43.46	1.13
3.3	44.23	1.15	44.23	1.15	44.23	1.15	44.23	1.15
3.4	45.01	1.17	45.01	1.17	45.01	1.17	45.01	1.17
3.5	45.82	1.19	45.82	1.19	45.82	1.19	45.82	1.19
3.6	46.64	1.21	46.64	1.21	46.64	1.21	46.64	1.21
3.7	47.31	1.23	47.47	1.24	47.47	1.24	47.47	1.24
3.8	47.64	1.24	48.30	1.26	48.30	1.26	48.30	1.26
3.9	47.99	1.25	49.16	1.28	49.16	1.28	49.16	1.28
4.0	48.33	1.26	50.03	1.30	50.03	1.30	50.03	1.30
4.1	48.72	1.27	50.97	1.33	50.97	1.33	50.97	1.33
4.2	49.10	1.28	51.91	1.35	51.91	1.35	51.91	1.35
4.3	49.47	1.29	52.86	1.38	52.86	1.38	52.86	1.38
4.4	49.84	1.30	53.82	1.40	53.82	1.40	53.82	1.40
4.5	49.90	1.30	54.48	1.42	54.48	1.42	54.48	1.42
4.6	50.25	1.31	55.46	1.44	55.46	1.44	55.46	1.44
4.7	50.60	1.32	56.44	1.47	56.44	1.47	56.44	1.47
4.8	50.94	1.33	57.42	1.50	57.42	1.50	57.42	1.50
4.9	51.27	1.34	58.41	1.52	58.41	1.52	58.41	1.52
5.0	51.33	1.34	59.14	1.54	59.14	1.54	59.14	1.54
5.1	51.65	1.34	59.94	1.56	60.15	1.57	60.15	1.57
Trench width,m	0.9		1.0		1.1		1.2	

Narrow trench load

Wide trench load

**DESIGN LOAD CALCULATION FOR DN 300mmSS**

Trench cover m	Design load kN/m	Bedding factor	Design load kN/m	Bedding factor	Design load kN/m	Bedding factor	Design load kN/m	Bedding factor
5.2	51.96	1.35	60.37	1.57	61.15	1.59	61.15	1.59
5.3	52.26	1.36	60.79	1.58	62.16	1.62	62.16	1.62
5.4	52.55	1.37	61.19	1.59	63.17	1.65	63.17	1.65
5.5	52.60	1.37	61.35	1.60	63.95	1.67	63.95	1.67
5.6	52.88	1.38	61.74	1.61	64.97	1.69	64.97	1.69
5.7	53.16	1.38	62.12	1.62	65.99	1.72	65.99	1.72
5.8	53.42	1.39	62.49	1.63	67.02	1.75	67.02	1.75
5.9	53.69	1.40	62.86	1.64	68.05	1.77	68.05	1.77
6.0	53.75	1.40	63.03	1.64	68.90	1.79	68.90	1.79
6.1	53.97	1.41	63.34	1.65	69.90	1.82	69.90	1.82
6.2	54.18	1.41	63.65	1.66	70.91	1.85	70.91	1.85
6.3	54.39	1.42	63.95	1.67	71.91	1.87	71.91	1.87
6.4	54.58	1.42	64.24	1.67	72.92	1.90	72.92	1.90
6.5	54.77	1.43	64.52	1.68	73.93	1.93	73.93	1.93
6.6	54.96	1.43	64.80	1.69	74.95	1.95	74.95	1.95
6.7	55.14	1.44	65.08	1.69	75.39	1.96	75.97	1.98
6.8	55.32	1.44	65.34	1.70	75.76	1.97	76.99	2.00
6.9	55.49	1.45	65.60	1.71	76.11	1.98	78.01	2.03
7.0	55.66	1.45	65.85	1.71	76.46	1.99	79.03	2.06
7.1	55.82	1.45	66.10	1.72	76.80	2.00	80.06	2.08
7.2	56.00	1.46	66.36	1.73	77.15	2.01	81.11	2.11
7.3	56.16	1.46	66.60	1.73	77.48	2.02	82.14	2.14
7.4	56.31	1.47	66.83	1.74	77.80	2.03	83.18	2.17
7.5	56.46	1.47	67.06	1.75	78.12	2.03	84.22	2.19
7.6	56.60	1.47	67.27	1.75	78.42	2.04	85.25	2.22
7.7	56.74	1.48	67.48	1.76	78.72	2.05	86.29	2.25
7.8	56.87	1.48	67.69	1.76	79.01	2.06	87.33	2.27
7.9	57.00	1.48	67.89	1.77	79.29	2.06	88.37	2.30
8.0	57.12	1.49	68.08	1.77	79.56	2.07	89.40	2.33
8.1	57.25	1.49	68.28	1.78	79.84	2.08	90.46	2.36
8.2	57.38	1.49	68.48	1.78	80.12	2.09	91.51	2.38
8.3	57.50	1.50	68.66	1.79	80.38	2.09	92.56	2.41
8.4	57.62	1.50	68.85	1.79	80.64	2.10	92.92	2.42
8.5	57.73	1.50	69.02	1.80	80.89	2.11	93.25	2.43
8.6	57.84	1.51	69.19	1.80	81.14	2.11	93.58	2.44
8.7	57.94	1.51	69.36	1.81	81.38	2.12	93.90	2.45
8.8	58.04	1.51	69.52	1.81	81.61	2.13	94.21	2.45
8.9	58.14	1.51	69.68	1.81	81.83	2.13	94.52	2.46
9.0	58.23	1.52	69.83	1.82	82.05	2.14	94.82	2.47
9.1	58.33	1.52	69.98	1.82	82.27	2.14	95.11	2.48
9.2	58.43	1.52	70.14	1.83	82.49	2.15	95.41	2.48
9.3	58.52	1.52	70.28	1.83	82.70	2.15	95.70	2.49
9.4	58.61	1.53	70.43	1.83	82.91	2.16	95.98	2.50
9.5	58.69	1.53	70.56	1.84	83.11	2.16	96.25	2.51
9.6	58.77	1.53	70.70	1.84	83.31	2.17	96.52	2.51
9.7	58.85	1.53	70.83	1.84	83.50	2.17	96.78	2.52
9.8	58.93	1.53	70.95	1.85	83.68	2.18	97.03	2.53
9.9	59.00	1.54	71.07	1.85	83.86	2.18	97.28	2.53
10.0	59.07	1.54	71.19	1.85	84.04	2.19	97.52	2.54
<b>Trench width,m</b>	<b>0.9</b>		<b>1.0</b>		<b>1.1</b>		<b>1.2</b>	

Narrow trench load

Wide trench load