

06-JAN-2021

BR706.dgn

CASE I: HORIZONTAL BACKFILL WITH 250 PSF SURCHARGE

SEISMIC LATERAL WALL COEFFICIENT, kh=0.10, kh=0.20																			
H	B	C	T	L	Bars a	Bars b	Bars c	Bars d, g	Bars e, f	Conc. Cu. Yd./Lin.Ft.	Reinf. Lb./Lin. Ft.	Effective Bearing Width, B' (ft) & Factored Soil Pressure, qu/φ (psf)							
												Service		Strength-I		Extreme-I; kh=0.1		Extreme-I; kh=0.2	
4'-0"	4'-6"	1'-3"	1'-0"	-----	#4 @ 18"	#4 @ 18"	-----	#4 @ 18"	#4 @ 18"	0.29	18	4.0 ft	600 psf	2.1 ft	2100 psf	4.4 ft	600 psf	4.3 ft	700 psf
6'-0"	6'-0"	1'-3"	1'-2"	-----	#4 @ 12"	#5 @ 12"	-----	#4 @ 12"	#4 @ 12"	0.47	38	5.7 ft	900 psf	3.9 ft	2400 psf	5.5 ft	1100 psf	5.3 ft	1200 psf
8'-0"	7'-0"	1'-6"	1'-2"	-----	#4 @ 6"	#5 @ 6"	-----	#4 @ 12"	#4 @ 12"	0.63	60	6.9 ft	1000 psf	5.4 ft	2600 psf	6.3 ft	1500 psf	6.0 ft	1600 psf
10'-0"	8'-6"	1'-9"	1'-2"	-----	#5 @ 6"	#6 @ 6"	-----	#4 @ 12"	#4 @ 12"	0.81	89	8.4 ft	1200 psf	6.9 ft	3000 psf	7.5 ft	1900 psf	7.1 ft	2000 psf
12'-0"	9'-6"	2'-0"	1'-4"	-----	#6 @ 6"	#7 @ 6"	-----	#4 @ 12"	#4 @ 12"	1.04	118	9.4 ft	1400 psf	8.3 ft	3400 psf	8.3 ft	2300 psf	7.8 ft	2500 psf
14'-0"	10'-6"	2'-1"	1'-6"	-----	#6 @ 6"	#7 @ 6"	-----	#4 @ 12"	#4 @ 12"	1.29	132	10.1 ft	1700 psf	9.8 ft	3700 psf	9.0 ft	2800 psf	8.3 ft	3000 psf
16'-0"	12'-0"	2'-6"	1'-8"	-----	#8 @ 6"	#9 @ 6"	-----	#4 @ 12"	#4 @ 12"	1.59	221	11.6 ft	1900 psf	11.2 ft	4200 psf	10.3 ft	3100 psf	9.6 ft	3400 psf
18'-0"	13'-0"	2'-9"	2'-0"	-----	#8 @ 6"	#10 @ 6"	-----	#5 @ 12"	#4 @ 12"	1.95	281	12.4 ft	2100 psf	12.6 ft	4500 psf	11.0 ft	3600 psf	10.2 ft	3900 psf
20'-0"	14'-6"	3'-0"	2'-3"	-----	#10 @ 6"	#10 @ 6"	-----	#5 @ 12"	#5 @ 12"	2.35	397	13.8 ft	2300 psf	14.0 ft	5100 psf	12.2 ft	4000 psf	11.3 ft	4400 psf
22'-0"	16'-0"	3'-9"	2'-4"	-----	#10 @ 6"	#10 @ 6"	-----	#5 @ 12"	#5 @ 12"	2.71	442	15.6 ft	2400 psf	15.5 ft	5400 psf	13.7 ft	4200 psf	12.7 ft	4600 psf
24'-0"	18'-0"	5'-0"	2'-6"	-----	#10 @ 6"	#11 @ 6"	-----	#5 @ 12"	#5 @ 12"	3.18	529	17.8 ft	2400 psf	16.8 ft	5800 psf	16.0 ft	4200 psf	14.9 ft	4600 psf

SEISMIC LATERAL WALL COEFFICIENT, kh=0.30																	
H	B	C	T	L	Bars a	Bars b	Bars c	Bars d, g	Bars e, f	Conc. Cu. Yd./Lin.Ft.	Reinf. Lb./Lin. Ft.	Effective Bearing Width, B' (ft) & Factored Soil Pressure, qu/ϕ (psf)					
												Service		Strength-I		Extreme-I; kh=0.30	
4'-0"	4'-6"	1'-3"	1'-0"	-----	#4 @ 18"	#4 @ 18"	-----	#4 @ 18"	#4 @ 18"	0.29	18	4.0 ft	600 psf	2.1 ft	2100 psf	4.2 ft	700 psf
6'-0"	6'-0"	1'-3"	1'-2"	-----	#5 @ 18"	#5 @ 12"	-----	#4 @ 12"	#4 @ 12"	0.47	38	5.7 ft	900 psf	3.9 ft	2400 psf	5.1 ft	1200 psf
8'-0"	7'-0"	1'-6"	1'-2"	-----	#4 @ 6"	#5 @ 6"	-----	#4 @ 12"	#4 @ 12"	0.63	60	6.9 ft	1000 psf	5.4 ft	2600 psf	5.7 ft	1700 psf
10'-0"	8'-6"	1'-9"	1'-2"	-----	#5 @ 6"	#6 @ 6"	-----	#4 @ 12"	#4 @ 12"	0.81	89	8.4 ft	1200 psf	6.9 ft	3000 psf	6.7 ft	2200 psf
12'-0"	9'-6"	2'-0"	1'-4"	-----	#6 @ 6"	#7 @ 6"	-----	#4 @ 12"	#4 @ 12"	1.04	118	9.4 ft	1400 psf	8.3 ft	3400 psf	7.3 ft	2700 psf
14'-0"	10'-6"	2'-1"	1'-6"	-----	#6 @ 6"	#7 @ 6"	-----	#4 @ 12"	#4 @ 12"	1.29	132	10.1 ft	1700 psf	9.8 ft	3700 psf	7.7 ft	3400 psf
16'-0"	12'-0"	2'-6"	1'-8"	-----	#8 @ 6"	#9 @ 6"	-----	#4 @ 12"	#4 @ 12"	1.59	221	11.6 ft	1900 psf	11.2 ft	4200 psf	8.8 ft	3800 psf
18'-0"	14'-0"	3'-0"	2'-0"	-----	#8 @ 6"	#10 @ 6"	-----	#5 @ 12"	#4 @ 12"	2.02	294	13.8 ft	2000 psf	12.9 ft	4700 psf	10.5 ft	4200 psf
20'-0"	15'-0"	3'-3"	2'-3"	-----	#10 @ 6"	#10 @ 6"	-----	#5 @ 12"	#5 @ 12"	2.39	406	14.6 ft	2300 psf	14.3 ft	5100 psf	11.0 ft	4800 psf
22'-0"	16'-6"	3'-6"	2'-4"	-----	#10 @ 6"	#10 @ 6"	-----	#5 @ 12"	#5 @ 12"	2.75	445	16.1 ft	2500 psf	15.8 ft	5600 psf	12.0 ft	5300 psf
24'-0"	18'-0"	3'-9"	2'-6"	-----	#10 @ 6"	#11 @ 6"	-----	#5 @ 12"	#5 @ 12"	3.18	520	17.6 ft	2700 psf	17.3 ft	6000 psf	13.1 ft	5800 psf

Accompanied by drawings – BR705, BR707, BR708 and BR709

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS
STANDARD RETAINING WALL
REINFORCEMENT DETAILS
CASE I: HORIZONTAL BACKFILL
WITH 250 PSF SURCHARGE
2024

DATE	REVISION	DESCRIPTION
01-2021	Revised table	
CALC. BOOK NO.	6407	SDR DATE

06-JAN-2021

BR706

Effective Date: June 1, 2026 – November 30, 2026