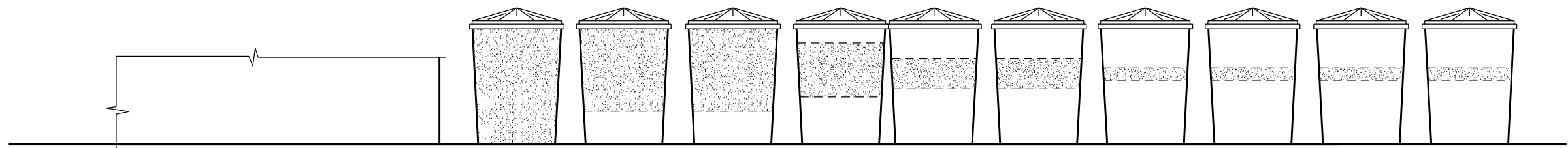


PLAN 1:50



ELEVATION 1:50

NOTES:

1. REFER TO THE MANUFACTURER'S MANUAL FOR PERFORMANCE CHARACTERISTICS AND LIMITATIONS OF THIS CRASH ATTENUATOR.
2. THIS SYSTEM IS NOT RECOMMENDED FOR SITES WHERE REDIRECTIVE CAPABILITIES ARE REQUIRED.
3. -- INDICATES RELATIVE LOCATION OF SAND.
4. SAND SHALL CONTAIN A MINIMUM 5% ROCK SALT (NaCl), BY WEIGHT.
5. EXIT VELOCITY \leq 15 km/h AT REAR OF THE SYSTEM.
DECELERATION \leq 12 g's AT ANY POINT IN SYSTEM.
6. ALL SCALES ARE APPROXIMATE
7. LATERAL CROSS SLOPE SHALL NOT EXCEED 20H:1V (5%).

REVISIONS		
DATE	DESCRIPTION	BY



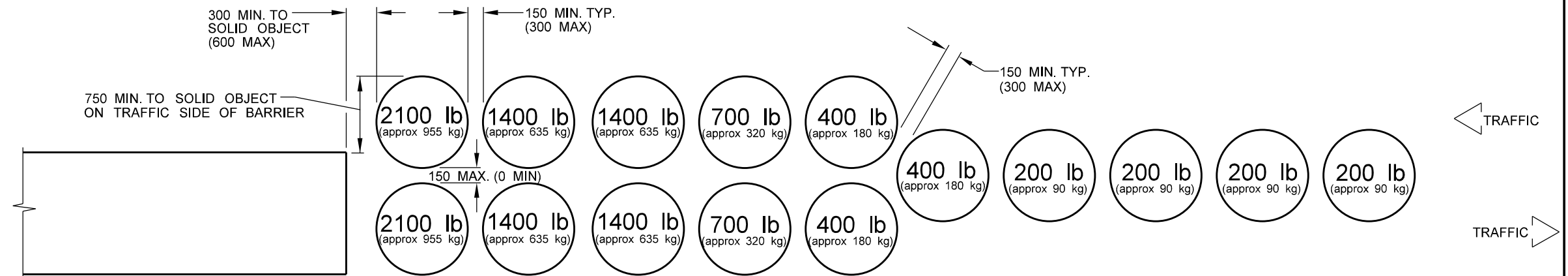
TRAFFIC ENGINEERING



**SAND-FILLED
BARRELS**
UNIDIRECTIONAL LAYOUT
POSTED SPEED
OF 110 km/h

SHEET NO	1 OF 2
DATE:	2019 - 01
DRAWN:	L.B.

TSFB110



PLAN 1:50

DESIGN CALCULATIONS FOR A POSTED VELOCITY OF 110 km/h (SEE NOTE 1)					
		816.5 kg CAR		2041.2 kg TRUCK	
ROW	SAND WT (lb)	EXIT VEL (km/h) 110.00	AVG g's FOR ROW	EXIT VEL (km/h) 110.00	AVG g's FOR ROW
1	200	98.98	9.91	105.31	4.34
2	200	89.06	8.02	100.82	3.98
3	200	80.14	6.49	96.52	3.65
4	200	72.11	5.26	92.41	3.34
5	400	58.98	7.40	84.85	5.76
6	800	40.80	7.80	72.02	8.66
7	1400	22.93	4.90	54.90	9.34
8	2800	8.96	1.92	33.82	8.05
9	2800	3.50	0.29	20.83	3.05
10	4200	1.05	0.05	10.76	1.37

NOTES:

1. THE DESIGN CALCULATIONS APPLY ONLY FOR A FRONTAL IMPACT IN EITHER A UNIDIRECTIONAL OR BIDIRECTIONAL LAYOUT.
2. ALL SCALES ARE APPROXIMATE.

REVISIONS		
DATE	DESCRIPTION	BY



TRAFFIC ENGINEERING



SAND-FILLED BARRELS
 BIDIRECTIONAL LAYOUT
 POSTED SPEED OF 110 km/h

SHEET NO	2 OF 2
DATE:	2019 - 01
DRAWN:	L.B.
TSFB110	