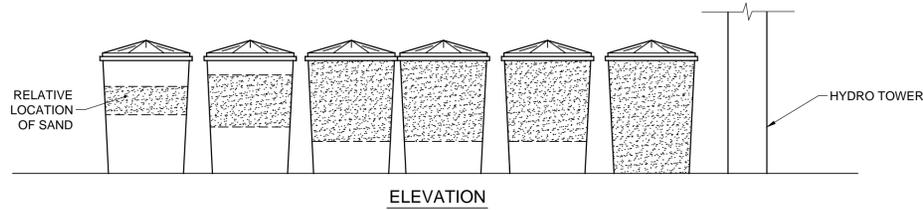


SAND BARREL NOTES:

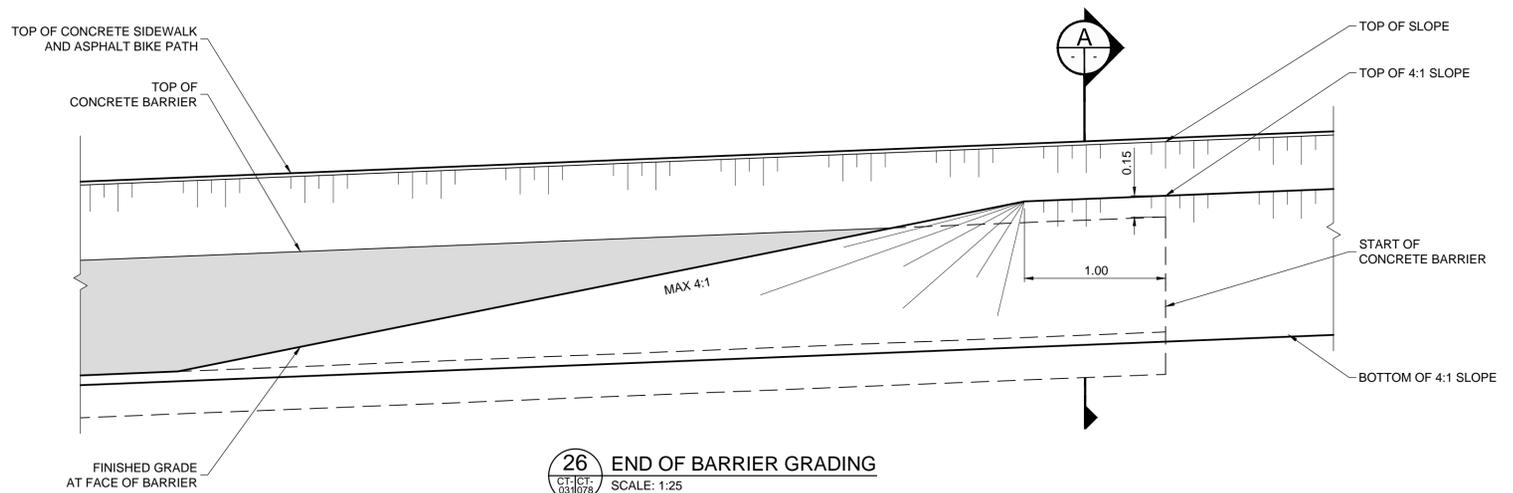
1. THE DESIGN CALCULATIONS APPLY ONLY FOR A FRONTAL IMPACT IN EITHER A UNIDIRECTIONAL OR BIDIRECTIONAL LAYOUT
2. SAND BARREL ARRAY TO ACCOMMODATE POSTED SPEED OF 70 KM/H
3. GEOMETRY AND NUMBER OF BARRELS TO BE DETERMINED AFTER HYDRO TOWER IS INSTALLED (LAYOUT SHOWN IS APPROXIMATE)
4. REFER TO THE MANUFACTURER'S MANUAL FOR PERFORMANCE CHARACTERISTICS AND LIMITATIONS OF THIS CRASH ATTENUATOR
5. THIS SYSTEM IS NOT RECOMMENDED FOR SITES WHERE REDIRECTIVE CAPABILITIES ARE REQUIRED
6. SAND SHALL CONTAIN A MINIMUM 5% ROCK SALT (NaCl), BY WEIGHT
7. EXIT VELOCITY < 15 km/h
8. DECELERATION < 12 g's

DESIGN CALCULATIONS FOR A POSTED VELOCITY OF 70 KM/H (SEE NOTE 1)

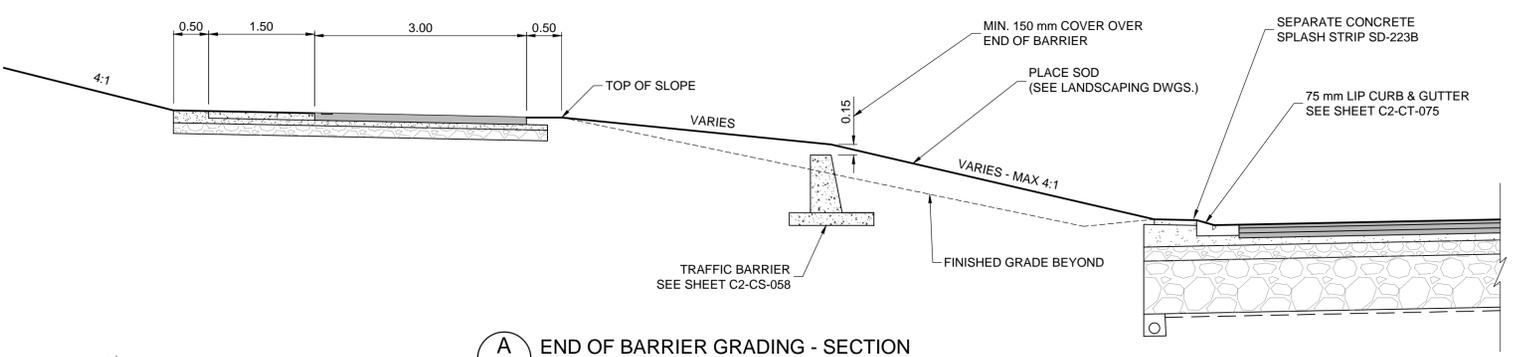
ROW	SAND WT (lb)	EXIT VEL (km/h)	AVG g's FOR ROW	EXIT VEL (km/h)	AVG g's FOR ROW
0		70.00		70.00	
1	400	57.25	6.98	64.27	3.31
2	700	41.20	6.80	55.61	4.47
3	1400	23.15	4.99	42.39	5.57
4	2800	9.05	1.95	26.11	4.80
5	2800	3.54	0.30	16.08	1.82
6	4200	1.06	0.05	8.31	0.82



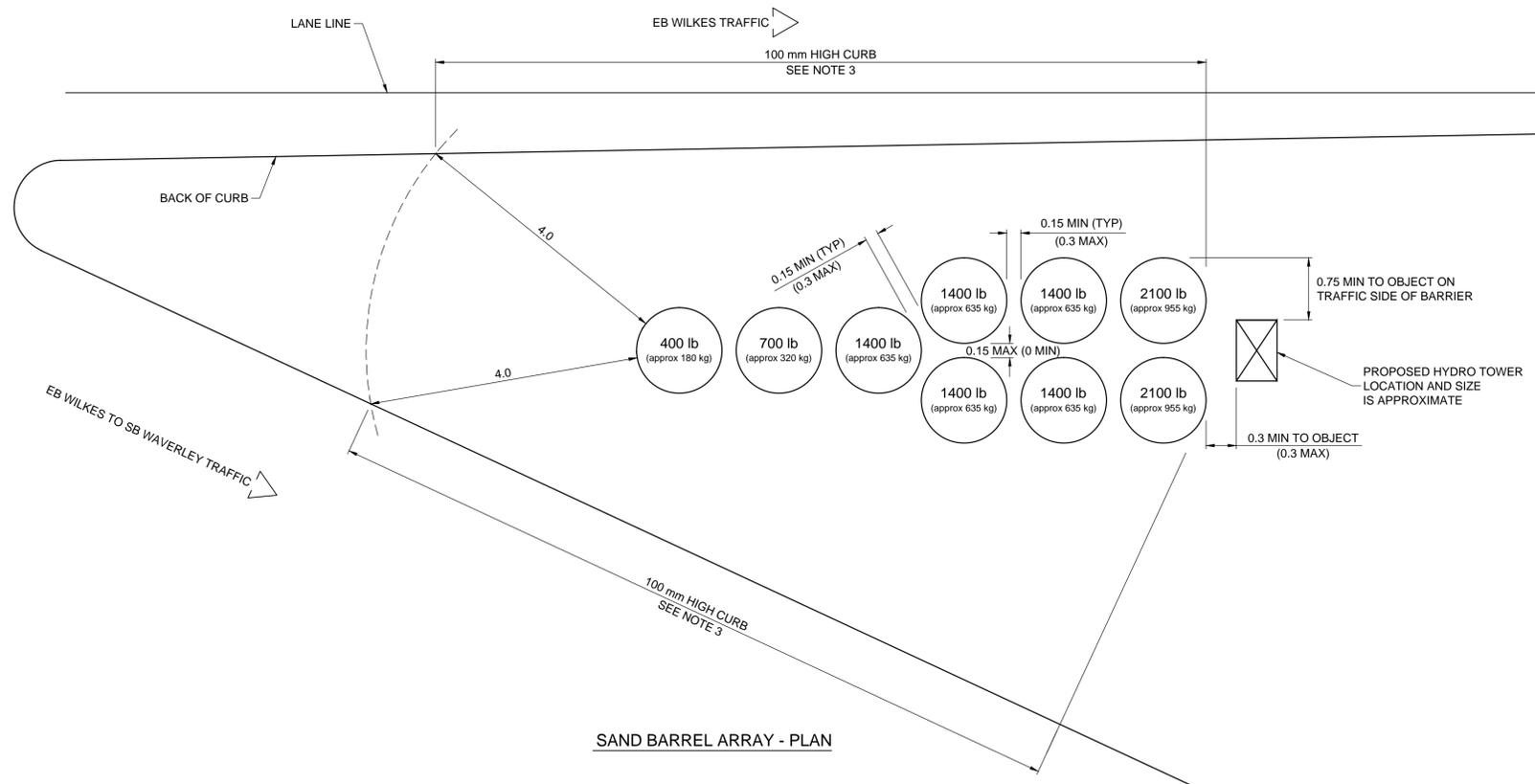
27 SAND BARREL ARRAY
SCALE: 1:50



26 END OF BARRIER GRADING
SCALE: 1:25



A END OF BARRIER GRADING - SECTION
SCALE: 1:50



SAND BARREL ARRAY - PLAN



UNDERGROUND STRUCTURES SUPPLY U/G STRUCTURES DATE		B.M. ELEV. SEE SHEET C2-CT-007 FOR CONTROL POINT INFORMATION				ENGINEER'S SEAL 			
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		0 ISSUED FOR TENDER 17/01/09 DBW		DESIGNED BY RTP CHECKED BY DBW DRAWN BY RD APPROVED BY DBW		HOR. SCALE AS NOTED VERTICAL AS NOTED		CONSULTANT PROJECT NUMBER 16-3353	
NO. REVISIONS DATE BY		0 ISSUED FOR TENDER 17/01/09 DBW		RELEASED FOR CONSTRUCTION		WAYERLEY STREET UNDERPASS AT CN MILE 3.89 RIVERS SUB CONTRACT 2: UNDERPASS STRUCTURES, RAILWORKS, ROADWORKS, LAND DRAINAGE SEWER, PUMPING STATION AND LANDSCAPING WORKS		CITY DRAWING NUMBER U-239-2016-C2-CT-078 SHEET 078 OF 081 CONSULTANT DRAWING NUMBER C2-CT-078	

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