

SECTION 2 – GENERAL DEFINITIONS AND REFERENCES

	<u>SECTION NO.</u>
Defined Terms	2.01
Convention For Units and Conversions	2.02

SECTION 2 – GENERAL DEFINITIONS AND REFERENCES

2.01 DEFINED TERMS (REVISED JUNE 2026)

Unless otherwise defined, a word or expression has the meaning assigned to it in the *Local Government Act, Community Charter, Interpretation Act, Water Sustainability Act, and Motor Vehicle Act*. Where no definition can be found in this document, the definition provided in the *Subdivision and Development Standards Bylaw* and the *Zoning Bylaw* will apply. (REVISED JUNE 2026)

- .1 “ANNUAL EXCEEDANCE PROBABILITY (AEP)” is expressed as a ratio or percentage and indicates the probability of a specific event occurring within a given year. This term replaces 'recurrence interval' or 'return period', which can be misleading. For example, a '1-in-100-year event' is often misunderstood as an event that happens only once every 100 years. Statistically, a 1% AEP (1:100 AEP) event has a 1% probability of occurring in any given year and a 67% probability of occurring at least once within a 100-year period. (REVISED JUNE 2026)
- .2 “APPROVAL” shall mean written approval granted by the City Engineer unless otherwise specified. (REVISED JUNE 2026)
- .3 “CITY” means the City of Nanaimo. (REVISED JUNE 2026)
- .4 “CONTRACTOR” means the company named in the Contract Agreement. (REVISED JUNE 2026)
- .5 “CITY ENGINEER” means the Director of Engineering. (REVISED JUNE 2026)
- .6 “ENGINEER” or “DESIGN ENGINEER” see Professional of Record. (REVISED JUNE 2026)
- .7 “INSPECTOR” means a person or company authorized by the City Engineer or by the Owner to inspect the work or any part of it. (REVISED JUNE 2026)
- .8 “OWNER” means the City of Nanaimo. (REVISED JUNE 2026)
- .9 “OVERLAND FLOW PATH” means a surface water route that forms when heavy rainfall or snowmelt overwhelms the capacity of the drainage works and flows on the surface following existing topography. (REVISED JUNE 2026)
- .10 “PROPERTY OWNER” has the same meaning as the *Land Title Act*. (REVISED JUNE 2026)
- .11 “PROFESSIONAL OF RECORD” means the Professional responsible for a specific portion of the project plans. Engineer of Record is included within this term. The Professional is an individual who is a practicing professional registrant as defined in Engineers and Geoscientists BC’s Bylaws. (REVISED JUNE 2026)

2.02 CONVENTION FOR UNITS AND CONVERSIONS (REVISED JUNE 2026)

- .1 All static and dynamic units on drawings and specifications are International System of Units (SIU), conforming to Can-3-Z234.2-73, the International System of Units (S.I.) and Can/CSAS234.1, Metric Practice Guide. (REVISED JUNE 2026)
- .2 The SIU accepted for the purpose of these standards, together with conversion factors relating them to equivalent imperial units are tabulated as follows: (REVISED JUNE 2026)

SECTION 2 – GENERAL DEFINITIONS AND REFERENCES

ITEM	BASIC SI UNIT	(SIU) ABBREVIATION	EQUIVALENT IMPERIAL UNIT (EIU)	CONVERSION FACTOR (CF) (CF X EIU = SIU)
Length	metre	m	foot	0.3048
Length	millimeter	mm	inch	25.4
Area	square metre	m ²	square foot	0.0929
Area	square metre	m ²	square yard	0.836
Volume	cubic metre	m ³	cubic foot	0.0283
Volume	cubic metre	m ³	cubic yard	0.765
Volume	litre	L	imperial gallon	4.546
Mass	kilogram	kg	pound	0.454
Mass	tonne	t	ton (short)	0.907
Density	kilogram per cubic metre	kg/m ³	pound per cubic inch	27,680.0
Temperature	degree Celsius	C	degree Fahrenheit	(F-32) x 5/9 = C

SECTION 2 – GENERAL DEFINITIONS AND REFERENCES

ITEM	BASIC SI UNIT	(SIU) ABBREVIATION	EQUIVALENT IMPERIAL UNIT (EIU)	CONVERSION FACTOR (CF) (CF X EIU = SIU)
Force	newton	N	pound force	4.448
Pressure*	kilopascal	kPa	pound per sq. inch or psi	6.8948
Pressure*	kilopascal	kPa	inch water column	0.2491
Pressure, stress (concrete)	megapascal	MPa	pound per sq. inch or psi	0.0069
Volume flow	litre per second	L/s	imperial gallon per minute	0.07758
Volume flow	cubic metre per second	m ³ /s	cubic feet per second	0.0283
Volume flow	litre per second	L/s	cubic feet per second	28.316
Power	kilowatt	kW	horsepower (electric)	0.746
Energy	joule	J	British Thermal Unit	1055.06
Illuminance	lux	lux	footcandles	10.76391
Frequency	hertz	Hz	Cycles per second	1.0

*As used in these standards, pressure shall mean gauge pressure unless otherwise noted

SECTION 2 – GENERAL DEFINITIONS AND REFERENCES

Standard Sieve Sizes

EIU	SI	EIU	SI	EIU	SI
4"	100 mm	1-1/2"	37.5 mm	3/8"	9.5 mm
3"	75 mm	1"	25 mm	1/4"	6.3 mm
2-1/2"	63 mm	3/4"	19 mm		
2"	50 mm	1/2"	12.5 mm		
#4	4.75 mm	#20	0.85 mm	#60	0.25 mm
#8	2.36 mm	#30	0.6 mm	#80	0.18 mm
#10	2 mm	#40	0.425 mm	#100	0.15 mm
#16	1.18 mm	#50	0.3 mm	#200	0.075 mm

Standard Pipe Sizes

EIU	SI	EIU	SI	EIU	SI
1/2"	12.5 mm	4"	100 mm	15"	375 mm
3/4"	19.0 mm	6"	150 mm	18"	450 mm
1"	25.0 mm	8"	200 mm	21"	525 mm
1-1/2"	37.5 mm	10"	250 mm	24"	600 mm
2"	50.0 mm	12"	300 mm	42"	1050 mm
2-1/2"	65.0 mm				

Concrete Strengths

EIU	SI
2200 psi	15 MPa
2500 psi	18 MPa
2900 psi	20 MPa
3700 psi	25 MPa
4500 psi	30 MPa
5000 psi	36 MPa

SECTION 2 – GENERAL DEFINITIONS AND REFERENCES

Reinforcing Steel

Comparison of Imperial and Metric Sizes
(Note: % difference based on area of bars in in²)

IMPERIAL BAR			METRIC BAR			
SIZE	AREA in ²	AREA mm ²	SIZE	AREA in ²	AREA mm ²	METRIC BAR IS
#3	.11	71	10M	.16	100	45% L
#4	.20	129	10M	.16	100	20% S
#4	.20	129	15M	.31	200	55% L
#5	.31	200	15M	.31	200	SAME
#6	.44	284	20M	.47	300	6.8% L
#7	.60	387	20M	.47	300	22% S
#7	.60	387	25M	.78	500	30% L
#8	.79	510	25M	.78	500	1.3% S
#9	1.00	645	30M	1.09	700	9% L
#10	1.27	819	30M	1.09	700	14% S
#10	1.27	819	35M	1.55	1000	22% L
#11	1.56	1006	35M	1.55	1000	0.6% S
#14	2.25	1452	45M	2.33	1500	3.5% L
#18	4.00	2581	55M	3.88	2500	3.0% S
L = LARGER						
S = SMALLER						