CA-09N - MARISCOS
Design Consideration and Results

DESIGN PARAMETERS AVERAGE VALUES	Km 0.000 – 13.000
RIGHT (WESTERN) LANE	
FWD MAXIMUM DEFLEXION (1/1000 mm)	635.12 | 852.55 | 720.43 | 899.87 | 658.1 | 994.78 | 859.17
LEFT (EASTERN) LANE	
FWD MAXIMUM DEFLEXION (1/1000 mm)	676.44 | 891.10 | 827.80 | 692.19 | 846.98 | 674.75 | 862.03 | 774.51
RIGHT (WESTERN) LANE	
Backcalculated SUBGRADE MODULUS (psi)	17,056 | 20,905 | 14,954 | 9,539 | 21,684 | 6,030 | 10,527 | 7,849
LEFT (EASTERN) LANE	
Backcalculated SUBGRADE MODULUS (psi)	18,644 | 9,633 | 17,356 | 10,848 | 15,034 | 8,683 | 15,930 | 10,016 | 12,361
RIGHT (WESTERN) LANE	
Ep (psi) - Effective Modulus	46,032 | 37,762 | 51,856 | 32,958 | 45,323 | 33,716 | 53,678 | 34,571 | 43,279
LEFT (EASTERN) LANE	
Ep (psi) - Effective Modulus	45,493 | 31,387 | 42,283 | 39,144 | 37,883 | 31,020 | 36,194 | 46,283
RIGHT (WESTERN) LANE	
SN eff (Effective Struc. Number)	4.11 | 3.89 | 4.11 | 3.76 | 4.22
LEFT (EASTERN) LANE	
SN eff (Effective Struc. Number)	4.08 | 3.64 | 3.89 | 4.22
DESIGN ASSUMPTIONS AND RESULTS	
Design Mr (psi) both lanes	5,685 | 4,500 | 4,985 | 4,500 | 5,310 | 4,500
SN Req	4.45 | 4.80 | 4.64 | 4.80 | 4.55 | 4.80
SN Req - SN Eff	0.37 | 0.72 | 0.91 | 1.00 | 1.16 | 0.91 | 1.04 | 0.79 | 1.04 | 0.91 | 0.58
Equivalent AC Thickness Layer (cms) [1]	2.6 | 6.4 | 7.1 | 6.4 | 7.3 | 5.6 | 7.3 | 4.1
Equivalent AC Thickness Layer (cms) [2]	14.3 | 15.6 | 15.4 | 14.3 | 15.4 | 15.7 | 15.1 | 14.3
Recommended AC Thickness Layer (cms) [3]	8.89
Recommended AC Thickness Layer (cms) [4]	16 | 16.5 | 16 | 16.5
Recommended PCC Thickness Layer (cms) [5]	20

[1] From AC Overlay of AC pavement AASHTO Guide for Design of Pavement Structures (1993)
[2] Assuming a Base Mr value of 40,000 psi, and using the AASHTO (1993) design procedure to protect the base layer
[3] Recommended mnimum value per AASHTO Guide for Design of Pavement Structures (1993)
[4] Pavement design under the modified CBR method, taing into account fatigue failure under Miner's criteria
[5] PCC (Rigid Design) slab on top of existing structure according to AASHTO Guide for Design of Pavement Structures (1993)