



EARTH ENGINEERING
CONSULTANTS, INC.

April 5, 2005

Imago Enterprises
140 Palmer Drive
Fort Collins, CO 80525

Attn: Mr. Les Kaplan

Re: Pavement Design
Cambridge Avenue (South of Harmony Road)
Fort Collins, Colorado
EEC Project No. 1042058

APPROVED
Ria Date: *4-12-05*
City of Fort Collins
Resursos Fly Ash

Mr. Kaplan:

Our subsurface exploration report for Cambridge Avenue construction south of Harmony Road in Fort Collins, Colorado was submitted to your attention on August 30, 2004. Based on that report, the City of Fort Collins Engineering Department has provided an estimated traffic loading for the identified street. The design summary is included with this report.

A pavement section recommendation is provided in this report based on the traffic loading provided by the City of Fort Collins Engineering Department and remolded subgrade strength characteristics. An R-value less than 6 was determined for the rough graded pavement subgrades. Using the American Association of State Highway and Transportation Officials (AASHTO) correlation that R-value corresponds to a resilient modulus value of 4330. The resilient modulus value 4330 was used in the pavement evaluation.

The AASHTO design guidelines for pavement design were used to evaluate a recommended pavement section for this project. A recommended pavement section based on that evaluation is provided below in Table I. Other sections could be considered; however, City of Fort Collins standards require the use of a composite section.

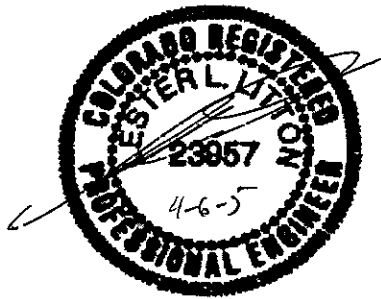
Table I- Recommended Pavement Section		
Design EDLA	160	(ESAL=1,168,000)
Design M_r	4330	(R-value=6)
Design Reliability	90%	
Design Structural Number	4.17	
Recommended Design Section		
Hot Bituminous Pavement	6" @ 0.44	2.64
Aggregate Base	9" @ 0.11	.99
Stabilized Subgrade	12" @ 0.5	0.60
	Section Structural Number	4.23

Our August 30 report recommended stabilization of the pavement subgrade with class C flyash. A compressive strength of 225 psi was determined in laboratory testing for the recommended flyash addition of 13%, based on dry weights. The asphaltic concrete used as the surface course in the pavement area should be consistent with City of Fort Collins classification for Grading S. Grading SG asphaltic concrete is required for the bottom lift in asphalt sections greater than 4 inches. The aggregate base should be consistent with Colorado Department of Transportation requirements for Class 5 or Class 6 base.

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We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we can be of further service to you in any other way, please do not hesitate to contact us.

Very truly yours,
Earth Engineering Consultants, Inc.



Lester L. Litton, P.E.
Principal Engineer

cc: Rick Richter - City of Fort Collins (4)
Gary Seebohm- Double Eagle
Mike Brake- J.R. Engineering