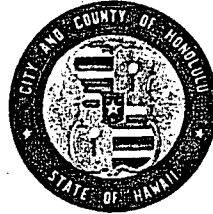


39906 123

676

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII 96813



FOR REFERENCE

not to be taken from this room

TA 710.3
H3
H64
No 676

FRANK F. FASI
MAYOR

KAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

501-14-0195

March 24, 1975

Mr. David Knox
Construction Ahead, Inc.
116 South King Street, Suite 413
Honolulu, Hawaii 96813

Gentlemen:

SUBJECT: PRELIMINARY SOILS REPORT FOR PROPOSED CLUSTER
DEVELOPMENT AT LULANI STREET
TAX MAP KEY: 4-7-45:20

The preliminary soils report submitted by James Lowe Inc.
is adequate for this evaluation.

Very truly yours,

Kazu Hayashida
for KAZU HAYASHIDA
Director and Chief Engineer

MUNICIPAL REFERENCE & RECORDS CENTER
City & County of Honolulu
City Hall Annex, 558 S. King Street
Honolulu, Hawaii 96813

PRELIMINARY SOIL REPORT

FOR

GENESIS

a cluster development

Honolulu, Hawaii

INTRODUCTION

This report is submitted at the request of Mr. Dave Knox, Architect, and is intended as satisfaction of requirements for approval of the proposed plan for four residences at Tax Map Key 4-7-45:20, Kahaluu, Koolaupoko, Honolulu, Hawaii.

Appended to this report are 1) Location Plat for borings, 2) Logs of borings, & 3) Summary of laboratory tests.

FIELD WORK

Four injection well borings were completed about September 23, 1974, and three hand auger borings were completed March 7, 1975. Observations of neighboring properties and improvements and a surface examination of the property were completed March 7, 1975.

LABORATORY WORK

Samples obtained from the hand auger borings were tested in the laboratory. Tests were conducted on the weakest materials based upon field log of borings and laboratory observations of the samples. Shear strength, Volume change, Moisture content, Density, and Classification tests were performed.

SITE DESCRIPTION

The site is generally 30% upslope, located on Lulani Street. Neighboring properties are improved in the area with residential construction. The property is overgrown

with some large trees and scrub, although clearing and trimming operations were in evidence on March 7, 1975.

The ground surface in the upper and lower reaches of the property has many basalt fragments to 2' least dimension, and the upper reaches are practically covered with these fragments in most areas. Where exposed in the lower reaches, subsoil is a medium clay. A very rich topsoil covers most of the site and is intermixed with the basalt fragments.

The subsoil horizon may be described as a thin mantle of 2' in the upper reaches increasing to 20' in the lower reaches of the property. Typical soil profile was 4" to 1½' of rich topsoil and basalt fragments, 2' to 20' of firm clay, becoming a weathered horizon with fractured basalt bedrock, with sound rock 10' below the weathered horizon. The soil becomes drier with depth.

PROPOSED DEVELOPMENT AND RELATION TO SITE

The proposed development includes the major improvements of 4 residences separate and 4 garages underground attached. Locations of these improvements are shown on the Location Plat. No structural fill is proposed by the architect. A maximum cut during construction of 14' is proposed. One residence is bounded on two sides by large monkeypod trees. The residences are proposed entirely above ground with post to isolated footing foundations.

CONCLUSIONS

Allowable soil pressures for footings are 6000 pounds per square foot, based upon footings bearing at 2' below lowest natural grade. An acceptable retaining wall design at the garage area should

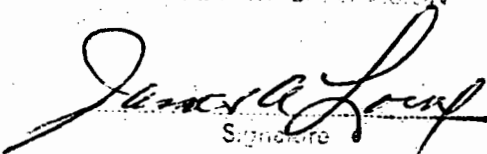
incorporate an allowance for 40psf equivalent fluid pressure for 30% slope backfill. The removal of nearby trees and adequate drainage is assumed for the retaining wall design. The soil has a higher than average shear strength, is non-expansive, normally consolidated in the upper strata and slightly overconsolidated in the deeper strata. Slope stability is adequate and should continue to be adequate provided drainage is properly designed.

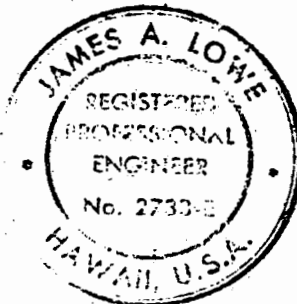
RECOMMENDATIONS

Design of footings should be based upon 4000 psf if located in shallow strata to allow for settlement problems, and 6000 psf if bearing at 4 - 6' below natural grade. Differential settlement problems may be reduced by making the most downhill footings deeper than the uphill footings, to account for the thicker soil strata as surface elevation drops. The Unit D design of foundations should include a positive method of restraining the monkeypod root ball from heaving the foundation, perhaps by a selective ground poisoning. Construction cuts should be limited to 6' vertical with a 1:1 backslope if no shoring is used. A filter blanket at the garage retaining wall footing is important to prevent increase in moisture content of the footing soils there, with subsequent decrease in strength.

Examination of footing excavations at the time of construction to verify the conclusions of this report is recommended.

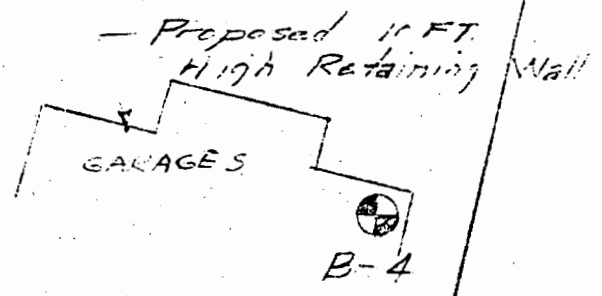
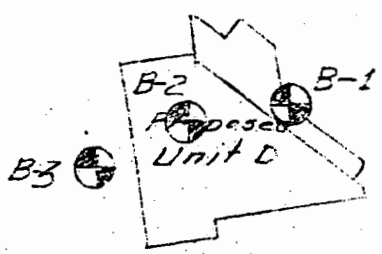
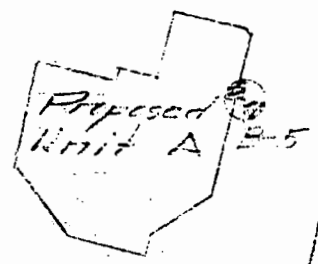
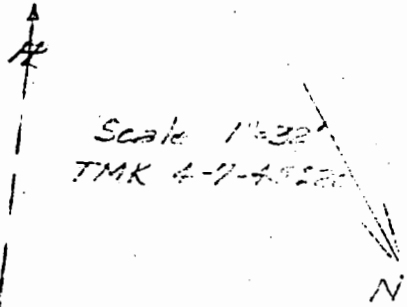
THIS WORK WAS PREPARED BY
OR UNDER MY SUPERVISION


Signature



JAMES LOWE INC.
BORING LOCATION PLAT

Scale 1"=30'
TMK 4-4-45200



LILANI STREET

