UNIVERSITY OF UYO
MASTER PLAN

SITE INVESTIGATION REPORT

OLAJIDE ADEBANJO ASSOCIATES
CHARTERED ARCHITECTS AND PLANNERS

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.1 LANDFORM/PHYSIOGRAPHY

The site is generally characterized by knolls or low hills and plateau which confer on it an undulating landform (Fig. 4.1). Two main gulley systems divide the site into three unequal lobes. The eastern lobe, the smallest, has its slopes trending north-easterly to south-westerly direction in the direction of the eastern gulley. The Western lobe which is the second largest has three main knolls on its north-south axis and characterized generally by north-south trending slopes on both sides of its plateau. The central lobe, occupying two thirds of the site is marked by 6 main knolls (ABCDEF). Five of these hills are located in the southern quarter with extensive plateau covering the middle and northern parts of this lobe. This plateau is only punctuated in the north by one hill (F). Four severely - indented spurs marks the northern boundary of this zone with the tributary of Ikpa River.

The dominant landforms from Nwaniba Road through the sites panhandle are knolls A and B. These along with C,D,E constitute the highest portions of the site as well the most dramatic landform from this viewpoint.

4.2 ELEVATIONS

The highest elevations on the site are generally above 62m contour and are mostly located near the site's panhandle in the central lobe (Fig. 4.1) Two high elevations occur in the western lobe while one occurs midway on the southern tip of the eastern lobe. The central plans or plateau occurs between 52m and 62m contours. The western and eastern plateaus occurs from 44m to 58m contours. The lowest contour of 12m occurs on the banks of the Ikpa River tributary and on the north-east portion of the eastern lobe.

With a difference of 58m between the highest and lowest contours, and a median contour of 30m, clearly, most of the site especially the central region is 18m above the level of Ikpa River tributary. Thus, most of the site is well above the flood potential of this tributary.

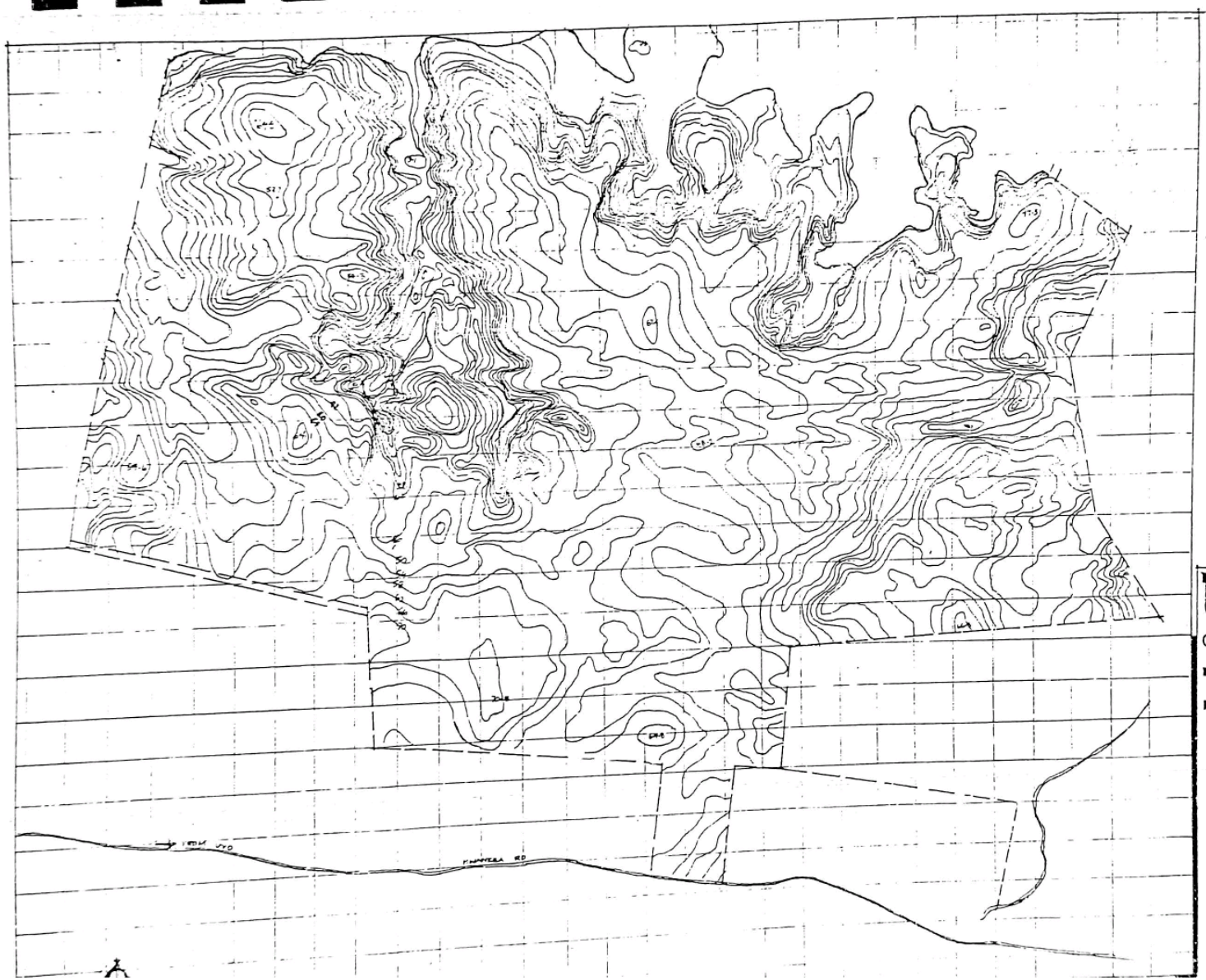

FIG 4.1

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4.3 SLOPE AND ASPECT

Slope analysis aids in determining the various land uses for various portions of the site along with feasibility of construction. Naturally slopes under 1% do not drain well. Those up to 12% (or 11°) pose few development and maintenance problems as minimal grading is required for intensive development. Development on steeper slopes is more expensive as more complicated building forms, foundation and difficult utility connections are required. Furthermore, steep slopes are more amenable to erosion if unprotected. They can however offer opportunity for creative design.

The two dominant slope patterns are associated with either the uplands or the drainage courses. Gentle slopes of 0-6% (0-5°) dominate the plateaus with the central plateau being the largest stretch. (Fig. 3.1). Slopes of 6-12% (5-11°) are found on some of the slopes of the knolls. Steeper slopes of 12-20% (11-18) and over are generally associated with drainage and stream courses.

With the abundance of land with slopes of 0-6%, development in the short and medium terms should be concenttrated on these. Steeper slopes should in consequence be committed to passive recreation, arboretum, conservation and may only become alternatives in the long term with the exhaustion of gentle slopes.

Slope aspect or orientation is not significant both because of the uniformal exposure of the entire site to both morning/evening sun and because of the high angle of the sun.

4.4 SITE PROFILES/VISUAL ANALYSIS

The interplay of physiographic forms which characterize the site is best illustrated by site sections. The variation consists of low hills separated by shallow U - shaped valleys in the south and central plains while deep U-shaped valleys characterize the northern descent to the stream, the east and west gullies. North-south sections confirm the concentration of hills in the south. Hills indicated in the north are generally lower. East-west sections also confirm the dominance of the central plains both in extent and height.

The most drammatic view into the site from Nwaniba Road is that through the site's panhandle. This view is framed by Hills A & B which reveals a portion of the eastern slopes. The Top of Hill A offers a panoramic view of most segments of the site: the Feedmill Silos, Nwaniba Road, Eastern slopes and the palm plantation. Top of Hill C and D offer a breath-taking view of the central plateau and the northern slopes. This view is accentuated in the north by a dense backdrop of mature palms and vegetation. The palm plantation offers an exhilerating contrast of light and dark between the sunswept central plateau and the eastern flank.

Hidden from view and with gradual slopes from the river, the northern knoll on the west lobe offers potential for elevated water tank structure.

SURFACE DRAINAGE

The pattern and texture of surface drainage on the site is coarse dendritic and moderately rectangular (Fig. 3.1). The deep gulleys particularly in the north tend to be long and slightly parallel to each other. Ikpa River tributary in the north is the main receptacle of drainage from the site as most gulleys drain northwards. Except for this tributary and the deep gulleys, most drainage courses in the east and west only have intermitent streams during the wet season.

The central plateau and ridges form the main watershed for surface drainage as nearly equal proportions of the site drain into the east and west gulleys. The apportunity offered by this divide along with long shallow valleys is that of watershed management. Thus, the long valleys lend easily to the creation of impoundments on the east and west to entrap run-off for recreational purposes and irrigation.

It is significant that gulley erosion was not noticed on the site. Whether this is attributable to the present vegetation cover or to the presence of deep, very permeable soils, is elaborated in the report on soils.

LANDSCAPE CHARACTER

The vertical contrast created by the interplay of the hills and valleys confers on the site its unique character of rolling landscape with gradually unfolding scenery. Stated differently, it posseses the character of an apparently expansive metropolis made up of numerous satellite towns but whose beautiful extent and interconnections can only be appreciated from the highest point or high tower.

This character it is expected will translate into an important part of the University's image.

SITE ECOLOGY/VEGETATION

Analysis of sites ecology aids in identifying unique natural habitats and vegetation to be preserved. It also reveals plant species adapted to the area and their design potentials. The presence of vegetation provides a useful indicator of edaphic conditions such as soil texture, permeability and moisture availability. Often different species and vegetative associations indicate different conditions e.g. Raffia palms.

Because most of the Southern hills and central plateau have been cultivated with cassava, mature vegetation stands are confined to the northern and eastern slopes which remain relatively undisturbed. For the uncultivated areas the ecology is dominated by mature palms and scrub vegetation. The dominant plant specie is the oil palm (Elaeis geinensis). A plantation of this palm extends from knoll C to the eastern slopes (Fig. 3.1). Mature and very tall palms dominate the south-facing slopes of the northern and western hills Raffia palm are found in the eastern drainage courses and the northern march. This is suggestive of hydric conditions.

In the less disturbed north-facing slopes of the northern hills, ~~characteristic~~ mesic conditions exist as no mature trees exist here. In the stream valleys of these Northern Hills and in the deep gulley, mature hardwoods such as Mahogany (kaya senegalensis) are found. These deep gullies contain rich vegetation diversity but are not readily accessible due to steep slope.

The central plateau and southern hills witness intense sun glare arising form removal of mature vegetation for farming. Aggressive tree planting programme will therefore become imperative during plan implementation to minimize sun glare. Vegetation will pose little problem in terms of cleaning and grubbing for development occuring in these areas.

Some common tree species found to be well adapted either on site or in Uyo town include:

Mangifera	indica	Mango tree
Cassia	siamea	Yellow Cassia
Cassia	nodosa	Pink Cassia
Delonix	regia	Flamboyance
Pinus	Khaysa	Pine tree
Encalyptus	Spp	Encalyptus
Casuanna	equisetifolia	Whistling Pine
Plumeria	Spp e.t.c	Frangipani

WILDLIFE

No specific bird sanctuary is evident on the site. Animals such as antelopes, grass cutters, and black monkeys are found here. The deep northern gulleys and the thick forests of the Ikpa River tributary provide sanctuary for these, particularly the monkeys. Snakes such as the common green snake are said by local trappers to exist in significant numbers.

Conservation of the deep gulleys and the forests of Ikpa River tributary will offer these areas as continued sanctuary for these wildlife species.

POTENTIAL ACCESS POINTS

Identification of potential access points is based on these critical considerations namely:

(a) Accessibility and visibility
(b) Surrounding land use and Right of Way (R.O.W)
(c) Corporate image and visual quality
(d) Sight distance for vehicular traffic

Nwaniba Road is currently the major approach to the site and is expected to remain so within the first two plan periods. Access into the campus, particularly the major access, ought to be readily approachable from

major routes within the site's context. In addition it needs to be readily visible or identifiable by first time visitors or those significantly unfamiliar with the locality.

Surrounding landuse can enhance the choice of location. Existence of residential, commercial and industrial land uses translate into higher cost in terms of compensation to acquire the requisite right-of-way (R.O.W).

As the perception of the corporate image of a University campus starts from its access points, the visual quality of these points represent a subtle index of that image. The main access as a consequence need to be uncluttered, drammatic and visually pleasing with proper choice of location, forms, colours and textures as to reflect the aspirations of the University.

Safe stopping sight distance for vehicles is most crucial to the decision on location. This is the distance required to stop a vehicle moving at a given speed in less than favourable road conditions. In other words, it is the distance required by a driver moving at a given speed to perceive an object in front and safely come to a stop without colliding with it. Stopping sight distance under reduced brake performance, poor weather conditions and reduced or impaired visibility for low speeds are as follows:

Speed kph	Stopping sight distance(m)
10	10
20	20
30	30
40	50
50	70
60	90

The increased volume of traffic on the access route necessitates that safe stopping sight distance be strictly observed in planning for both through traffic and those emanating or entering the campus.

Site investigations reveal three potential access points namely:

(1) the entry to Akwa Feeds Silo
(2) entry through the market to the Farm area
(3) through the site's panhandle (near SGEN depot).

All these locations enjoy equal accessibility. The panhandle or location (3) however being at the bottom of the roads sag curve has a picturesque view from both crests of Nwaniba Road. Also owing to residential land use and market around locations (1) and (2), acquisition of necessary right of way (R.O.W.) especially for a main access will be expensive and disruptive. Location (3) is lying fallow having been under cultivation. With little visual clutter, this location has the advantage of dovetailing into the dramatic landform and view created by hills A,B,C,D.

A profile of Nwaniba Road will reveal if the sight distance desirable at the campus main access will readily be achieved near and/or at the bottom of the road sag. Or it will reveal if achievable on cr near the crest where locations (1) and (2) are.