NATIONAL FOODS LADIES CLUB:
GUIDELINES FOR RESTORATION AND NEW EXTENSIONS

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INTRODUCTION:

The Ladies Food Club building located in the Civil Lines Quarter is a listed heritage of Karachi, notified as protected under the Sindh Cultural Heritage Preservation Act 1994. Its enlistment number in the records of the Department of Culture, Government of Sindh is 1997-384.

Civil Lines is a historic quarter of Karachi that came into being during the 1880s. The boundaries of Civil Lines Quarter lie between Aiwan-e-Saddar (Strachan Road) on the west, Railway Line on the east, Dr. Ziauddin Ahmed (Katcheri Road) on the north and Zaibun-Nisa Street on the south. The area emerged as a prestigious locality of the city, with many landmark civic and amenity buildings built under the British administration; including the Frere Hall, Government House, Collectors *Kutchery*. The residential areas on the south-east corner of the Civil Lines Quarter comprise of approx. 600 sq. yds. plots with large spacious bungalows built in the style reflecting colonial period influences. Until 1890, the entire area had a very low-density with population of only 400 people. The ambiance of this historic area is characterized by single or two storeyed stone buildings; having either residential or public usage set within huge plots having large open spaces around them; densely planted with trees and greenery. The mature trees in this area contribute to the historic flavor and charm of the area (the variety existing on site includes *Imli* (Tamarind), *Badam*, Chickoo, Pipal, Sirech , Coconut and Neem). Formerly the Civil Lines Quarter had a good number of stone buildings but now many of these have been replaced with concrete structures. The stone structures representing a unique plan typology of colonial period, i.e. residential bungalows are now rapidly becoming rare because of growing commercialization and demolitions for new developments and high rise constructions; resulting in the loss of this historic environment.

The Ladies Food Club building was originally built as a residential bungalow (for Mrs Yasmeen), but now this property is converted to commercial usage. The present owners, National Food Ltd. took over the property as tenants on 02-07-1988 as per the records of Excise & Taxation Department, Government of Sindh. It is presently being used as the Ladies Food Club but the owners now want to convert these premises into their head office.

OBJECTIVE OF THE REPORT:

The objective of this technical report is to recommend guidelines for the conservation and adaptive reuse/ restoration/ extension of spaces as per the requirements of the owner, so as to facilitate the project architects in developing their proposals in accordance with the regulations and accepted approaches of heritage conservation. The report first identifies the values and characteristics of this listed property, which are required to be appreciated and retained in the proposed scheme; and further lists the existing problems/ alterations in the original building materials and plan scheme, along with their recommended proposed remedies and/ or repairs.

A visit of the site was undertaken in June 2010 by the team of Heritage Cell, Department of Architecture and Planning, N.E.D. University of Engineering and Technology, Karachi. The HC-DAPNED team produced a measured drawings survey (August/ September 2010) of the entire property; followed by an analytical review of the site and its historic structures with the intention of developing these guidelines for the conservation/ restoration and principles for new development being proposed on the site.

Prior to formulation of a conservation policy for any monument, a detailed survey and documentation of the existing status of the building is necessary. The process includes a measured survey i.e. precise development of scaled drawings of building plans, elevations, sections and other architectural details; and other data collection in the form of photographs, site observations, notes and sketches. The collected information is then sorted, evaluated/ analyzed and finally used for developing case specific recommendations. For Ladies Food Club no existing documentation drawings were available thus the entire site was measured and documented photographically by undertaking an extensive field survey of 12 days duration.

THE SITE AND ITS LOCATION

Ladies Food Club is situated on Claremont Road; and is easily accessible from a major artery of the city i.e. Sir Abdullah Haroon (Victoria) Road. The ideal location of this property near a main road allows convenience in terms of accessibility both with private as well as public transport.

The ground plus one storey bungalow is built within an independent compounded plot with surrounding open spaces, not visible from the road. The building covers an area of only 708.96sq. yds. from a total of 5083.667sq. yds. (1.05 acres) plot. The huge lawn spaces and large trees around the structure provide a complete buffer from the traffic noise and pollution as well as the adjoining properties. This dense foliage creates an enchanting impression over visitors while getting towards the main building block.

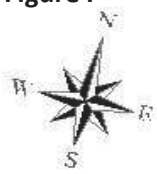
The original building scheme layout included the main bungalow (presently used as the main office block) and out-houses on the north-eastern corner of the plot. Later change of usage for commercial purposes has resulted in addition of new blocks/ extensions on the site; including two rooms adjacent to the out -houses, used for storage when required, otherwise left vacant. The property having remained constantly in use is well kept and quite maintained over the years. The regular maintenance has prevented decay, making it possible for this historic monument to survive till the present day, in a relatively good condition. However, some repair and restoration works are needed in places as remedies to the minor building material decays and damages done to the structure over time due to required alteration and changes in the original layout to facilitate the changing usage.

Figure I

LEGEND

BUILT UP AREAS

- Main Structure (3505.858 sq-ft)
- Out house (1130 sq-ft)
- Later additions



SITE PLAN

APPLICABLE KBCA REGULATIONS:

In Civil Lines Quarter according to the KBCA regulations all the residential houses/ bungalows having size of 1500yds² (1260.5 m²) or beyond that size, are allowed a **40%** footprint and **1:2** allowable floor area ratio (FAR).

In case of National Foods Ladies Club; as residential usage, only **14.5%** (6629.77 sq-ft) of the total area (45652 sq-ft) was originally consumed and still **25.5%** foot print is allowable.

The change of plot type from residential to commercial allows an increase of up to **65%** foot print and **1:3** FAR, for a plot having size of 1000-2000 (836-1672 sq-m) or beyond. According to the changed usage, in addition to the already built 14.5% foot print, an additional **50.5%** (23044.3 sq-ft) area can be built on the site.

According to the 1:3 FAR **89021.4 sq-ft** is allowed, out of which the two historic structures (main building block & out house) provide **9271.716 sq-ft** area. An additional **79749.684 sq-ft** is available according to the regulations, which can be utilized for further construction.

DISCRIPTION OF THE STRUCTURES ON SITE:

The site at present has two main blocks (the bungalow proper and out-houses) which form the original layout, thus having more significance in terms of preservation. Besides these two structures there are around nine more small structures haphazardly added to the site to incorporate the growing need of the users and/or incorporate various services. These later additions are either temporary shed like structures or block masonry units that do not contribute to the architectural quality of the site, thus could be removed to make way for better designed additional spaces, as desired by the owner and required for better functioning of the present usage. The two original blocks represent original historic content of the site, thus described and discussed in detail as follows to highlight the specific characteristics and features that should be considered worthy of preservation and incorporated in the restoration/ renovation scheme.

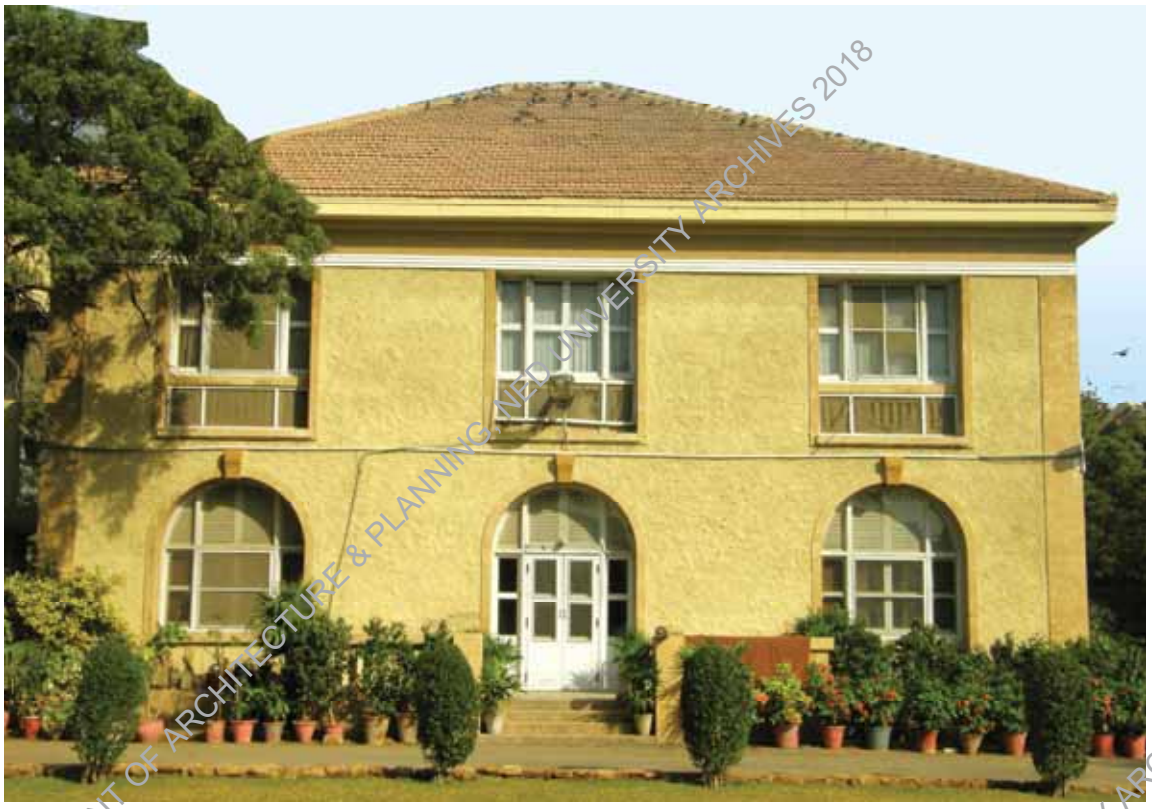
The Main Building/ Bungalow (Structure #01)

The most important feature of the site is the main bungalow structure, built in Ghizri limestone (ochre color) using dressed stone masonry. It is a G+1 storey structure, having a total height of approximately 40ft. from existing ground level; including the 2ft. high plinth and the gabled roof having a rise of approximately 10'-8", covered with terracotta tiles (*khaprail*). The construction is a typical representation of colonial period bungalows having the characteristic elegance of the period style. It however, has a more simplistic architectural vocabulary; the only dominating features adorning the exteriors being two semicircular rooms on ground floor creating a feature of interest on the eastern and southern façades, and the dominant entrance patio/ terrace on the front façade (western elevation). The placement of the main building on the plot is such that the southern and western façades overlook the larger expanses of open spaces; whereas the northern and eastern façades have a secondary importance overlooking the service areas and parking spaces.

The western façade has the main entrance to the building, while the eastern façade serves as the back side access. This western façade is also adorned with three semicircular arched opening on the ground floor that open on to the verandah. The openings on the

two shorter sides of the verandah are also semicircular arched openings that appear on the southern and northern façades. All the arched openings (having a semi circular profile) are decorated with a dominating key stone. All the elevations have a simple non-decorative character, but the northern façade, being the back side is even more simple, treated as of secondary importance. Besides the five arched openings of the ground floor verandah space, the remaining doors and windows on both the floors have rectangular profile. In addition to these the building also has its original chimney which forms a dominating feature of the exterior massing (a rare surviving example of this architectural feature thus strongly recommended to be retained in the restoration proposal). The chimney is 21.6ft. high and placed on the north-eastern side of the main building.

Chimney attached to the original kitchen space; placed on the north-eastern side of the main building.



Western façade having the main entrance to the building.

Southern façade having the semicircular niche in a ground floor room.

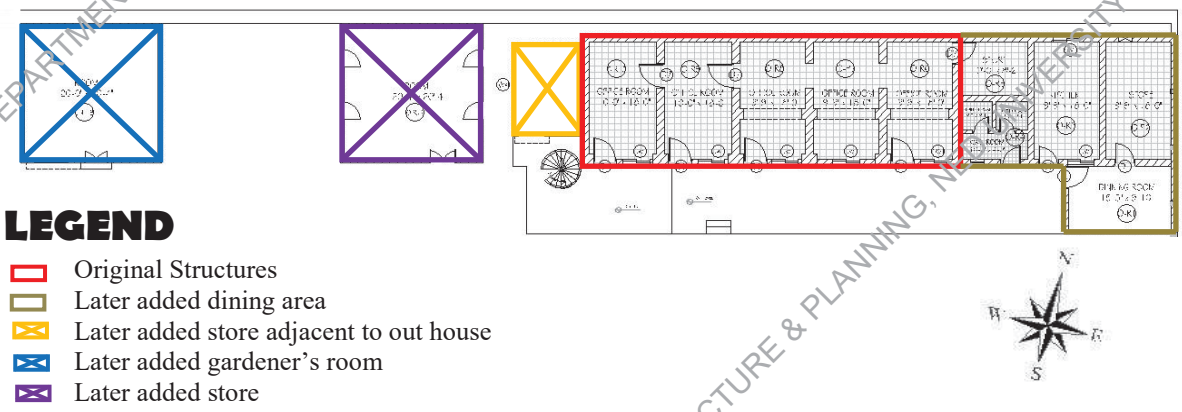
The plan follows the typical bungalow layout with an entrance patio connecting through a longitudinal corridor (which originally must have been a covered verandah) to the main hall and a room. These in turn link to the staircase foyer through which the service areas have an access via a corridor, and to a second room. The first floor is accessed through a wooden staircase (which is very well kept and in good condition) providing the only link connecting the two levels.

The flooring of the entire building is done in pigmented cement concrete tiles; except for the large hall (presently used as the conference room) which originally had a wooden floor along with a 6 inch skirting. This Timber flooring currently is covered with a carpet. Other than this room the entire ground floor has c.c. tiles of floral-geometric patterns using pale yellow, grey and black colors. All the rooms on first floor including toilet and the verandah has plain c.c. tiles of yellow color with a decorative boarder using geometric pattern in black pigment. This border runs along the sides of each room, even the toilets. The c.c. tiles on both floors are in a good state of conservation; except for small patches where repair work is needed.

Out-houses (Structure #02)

The original structure of out-houses presently stands with much alterations. This ground plus one storey building is located behind the main bungalow on the north-eastern corner of the plot. It is placed at only 3ft. distance from the boundary wall.

The original part of the out-houses structure comprises of the five rooms, which have the upper storey as well. An external spiral stairway built in metal, provides access to the upper floor, through an open verandah/ balcony on which all the rooms open. The wall thicknesses of the original structure indicate that it is a stone masonry structure, but in its present state no exposed stone masonry is visible. The structure has been heavily plastered with cement plaster and also extended with later extensions on the ground level. Although the out-houses no longer posses any important architectural features reflective of its original character but the footprint of the building being part of the original layout scheme holds significance.



View of spiral staircase and front elevation of the out-houses.

ALTERATIONS AND INTERVENTIONS:

Any monument or historic building that has survived to present day, and being utilized for certain function undergoes alterations and changes that should be considered as part of its historic development thus given due regard in conservation/ restoration policy.

The Ladies Food Club building is an example building where the original function has been altered from residential to commercial usage. Thus for catering to and facilitating the new function changes in the original structure were done from time to time, basically to address the growing needs and fulfilling the demands of changing technologies.

Following are the major alterations observed on the site and the historic structures.

SITE ALTERATIONS:

The site of National Foods Ladies Club is in a well preserved condition; to a great extent retaining its original character and proportion of built and open spaces. Only a few alterations on the site have been observed. These are being considered as of having a minor impact on the overall ambiance of the site.

i. Addition of Structures on the Lot

The original footprint of built-up areas on the plot include the main bungalow and the out-house structure. Besides these two all other structures presently existing on the lot are later additions. These include the two blocks built adjoining the out-houses, as storage spaces and kitchen area. Some of these spaces are presently lying vacant. Two more blocks were added as the gardener's living quarters. Further additions on the site include; an over head tank tower and a temporary shed for the generator, built behind the main building on the northern side; and a guard room and lavatories attached to the boundary wall near the gate. All these later added structures have unimpressive architectural quality, built as make-shift spaces using block masonry and asbestos roofing. None of these compliment the site and its original structures, thus do not contribute positively to the site and its development.

a. Later added over head tank tower on north-eastern side of the main building.
b. Blocks later attached to the out-house.

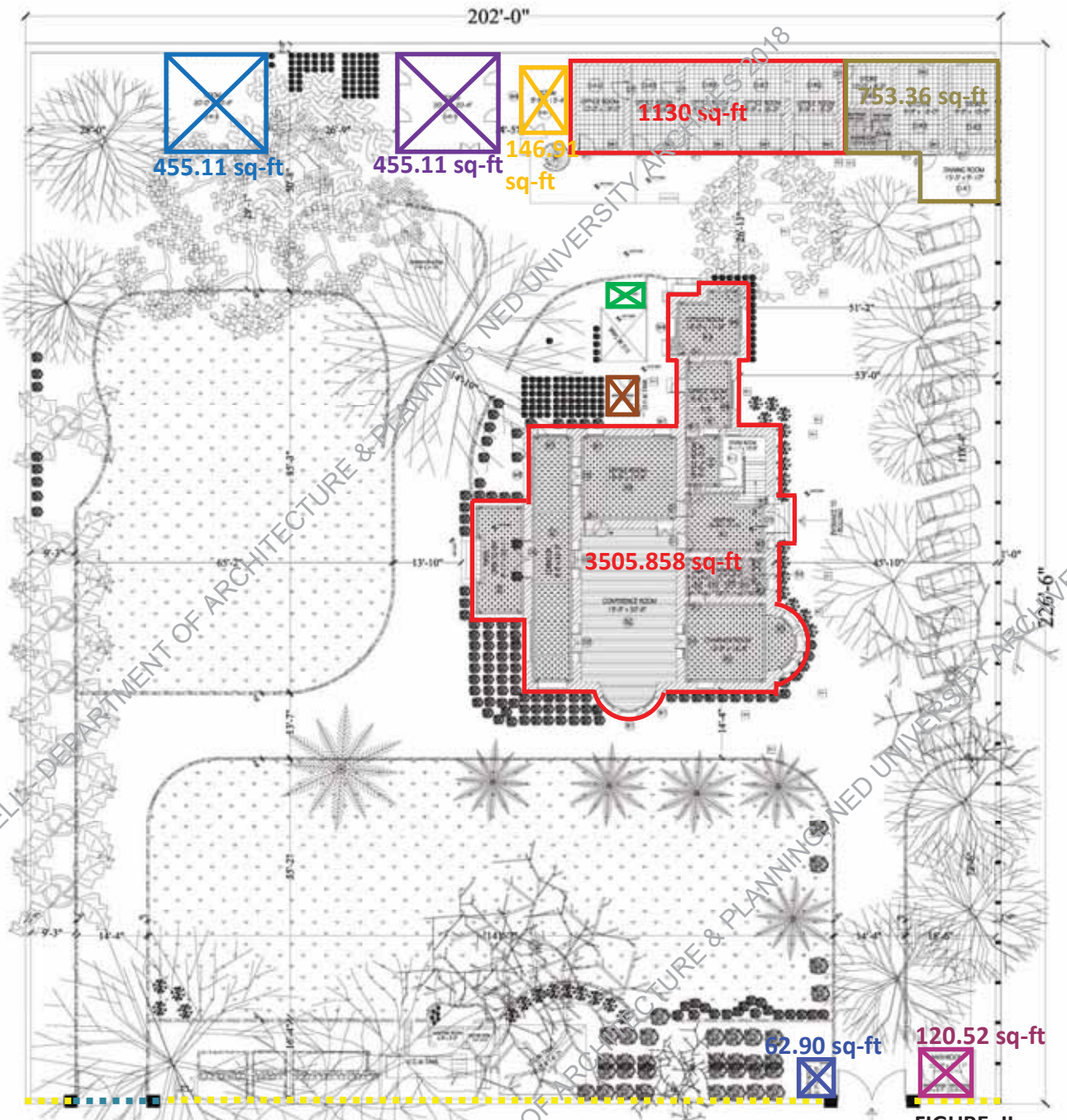


FIGURE: II

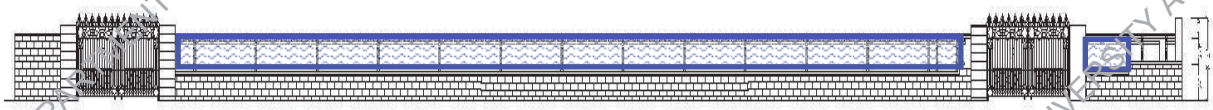
LEGEND

- Original Structures
- Dining area
- Storage area
- Gardener's room
- Machine/ store room
- Temporary shed of generator
- Over head tank
- Guard room
- Lavatories for servants
- Altered boundary wall
- Closed entrance gate

SITE ALTERATIONS

Altered Boundary Wall

The boundary walls on all sides of the plot originally had stone masonry up to approximately 3ft. height. This original detail is now intact only in a mall portion of the wall on the back (northern) side. Above this original base the walls on the front (southern) side and on western side have a c.c. *jali* work set between columns placed at a distance of approximately 10ft. apart. The *jalis* have a *namakpara* pattern depicting timber *jafris* and the columns have a floral pattern embossed on the surface. The cc. *jali* work on the western side wall has been filled in places with cement mortar from the neighboring property's side. On the front (southern) side the height of wall has been further raised using barbed wires, to ensure further security. Furthermore, the stone masonry based on this side facing the street has been covered with black tile cladding. The wall on the eastern side is raised with block masonry (apparently replacing the c.c. *jali* work) and mounted with iron grills and spikes.



Boundry wall altered

Different views of namakpara pattern of the boundary wall.

The remaining portion of the original boundary wall built of stone, on back side of the site.

ii. Gate in Disuse

The plot has access only from the southern side. This side's boundary wall has two gates, but at present only the one on the western end is in use. The eastern end gate exists, but it is in disuse and kept permanently closed.

Second main gate: located on southern side of the site not being used.

iii. Driveway and Pathways

The driveways and circulation areas on of the site are at present covered with asphalted surface. This should be replaced with properly designed walkways. The hard pavements (preferably cc pavers) should be restricted to areas having vehicular circulation. The other areas should be designed with proper soft landscaping and terracotta tile pavements for pedestrian circulation.


Pictures showing driveways covered with asphalt surfaces.

ALTERATIONS ON BUILDING EXTERIORS:

i. Plastering of Stone Masonry Surfaces

National Foods Ladies Club building is built with yellow limestone with finely dressed stone masonry surfaces. The original masonry surfaces of dressed stone are now externally covered with cement plaster having a *dana* texture surface. This *dana* plaster has been applied all over the building, on all sides four façades, except for the doors/ windows framing details and the two semi circular niches in the ground floor rooms; seen on the eastern and southern façades respectively. These areas are the only remaining visible samples of the original stone masonry surface.

Semi circular niche on ground floor showing the original dressed stone masonry.

External surfaces covered with dana plaster

ii. Defacing Wiring, Plumbing and Fittings

All the four elevations of the main bungalow are defaced by haphazardly installed electrical wiring and plumbing pipes. Huge light fixtures installed on the south-western and north-eastern corner of the building also create a visually disturbing impact on the façades.

Different views of northern façade showing haphazardly installed electrical wiring and plumbing pipe.

iii. Haphazardly Placed AC Units

In addition to the above defacing elements, the outdoor or window units of ACs are also a source of negative visual impact on the four faces of the building. The air conditioning of various rooms and areas having been done in piecemeal manner has resulted in haphazard and unplanned placement of AC units without any consideration being given to the negative visual impact created both on the exterior as well as interior of the building. Most of the outdoor units of split ACs are arbitrarily placed on the flat roof surfaces of the projecting semicircular niches on ground floor or hanged on the buildings' face on supporting iron angles. The window units are also placed by cutting the window frames and fixing them.

Haphazard placement of AC outdoor units on eastern and southern elevations respectively, creating an unpleasant visual effect.

This unplanned placement of ACs and their improperly fixed drain-pipes also cause problems of stains as water washes over surfaces and also creates puddles where cavities or improper drainage slopes exist. The presence of moisture causes micro and macro biological growth damaging the construction materials.

iv. Altered Doors and Windows

The original doors and windows in the building are of teak wood. Some of these (especially those on the ground floor in executive room) have retained their original character and are maintained with a high quality clear polished surfaces, but only on the interior side. On the exterior side all windows and doors are painted with white enamel paint; except for entrance door and its adjoining slit windows on the eastern façade. In addition to being painted a number of windows have also been altered due to installation of air conditioning units. Such alterations include cutting of window panes to place the window AC units. Later on some of the window units being replaced by split ACs, their openings have been closed with fixed wooden planks or hard board. These make-shift interventions have defaced some of the window openings, having a negative visual impact on the façades.

Examples of altered windows on first floor (northern side) of the main building.

The window on western side of the building is being altered by filling the parapet with cement mortar and by adding the net frames.

The door openings have also been retained unaltered, as in the original plan scheme; only a couple of the original door openings have been altered. On the ground floor in the area where originally the kitchen existed, but this space has now been converted into an office, the original door opening directly outside (probably for use of the servants) has now been locked permanently and made un-functional for security reasons. The other alteration of a doorway is the installation of an aluminium door frame with glass door in the corridor space on the first floor, transforming this passage into a closed space.

Temporarily closed doors on ground floor western side of the building.

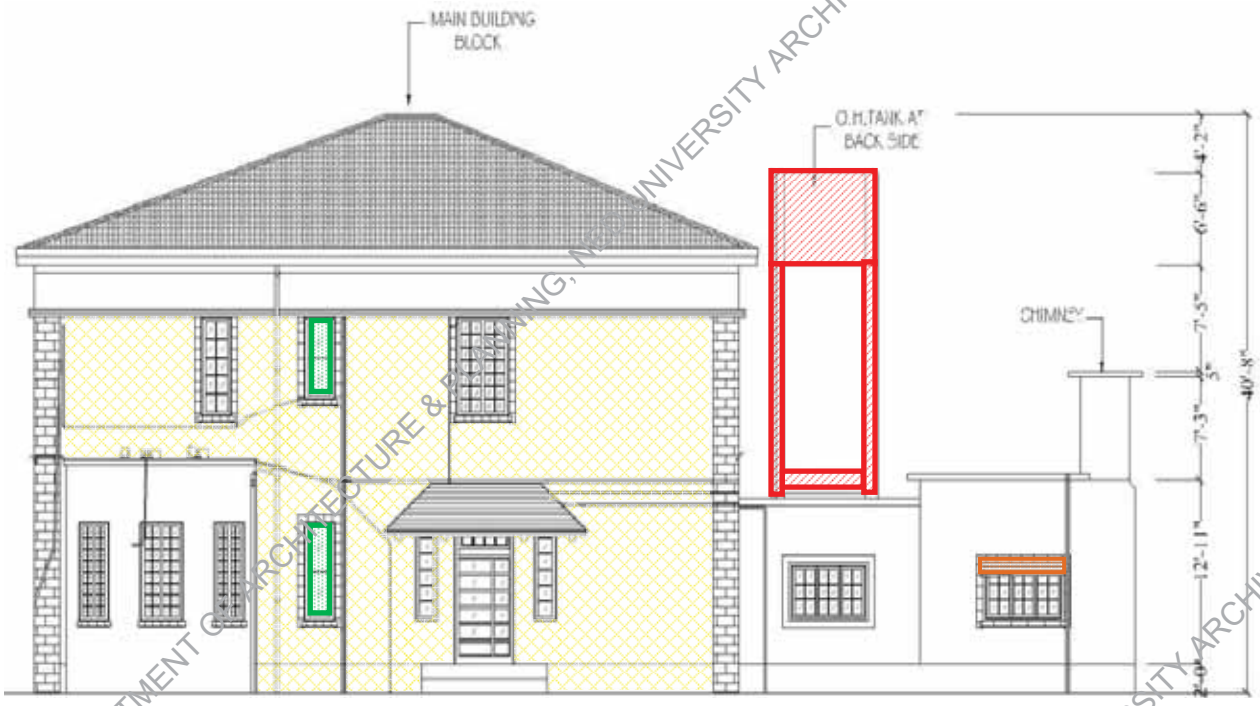


Figure III

LEGEND

- Later added over head tank
- *Dana* plaster
- Temporary shade added
- Window covered with net frame

ALTERATIONS EAST ELEVATION

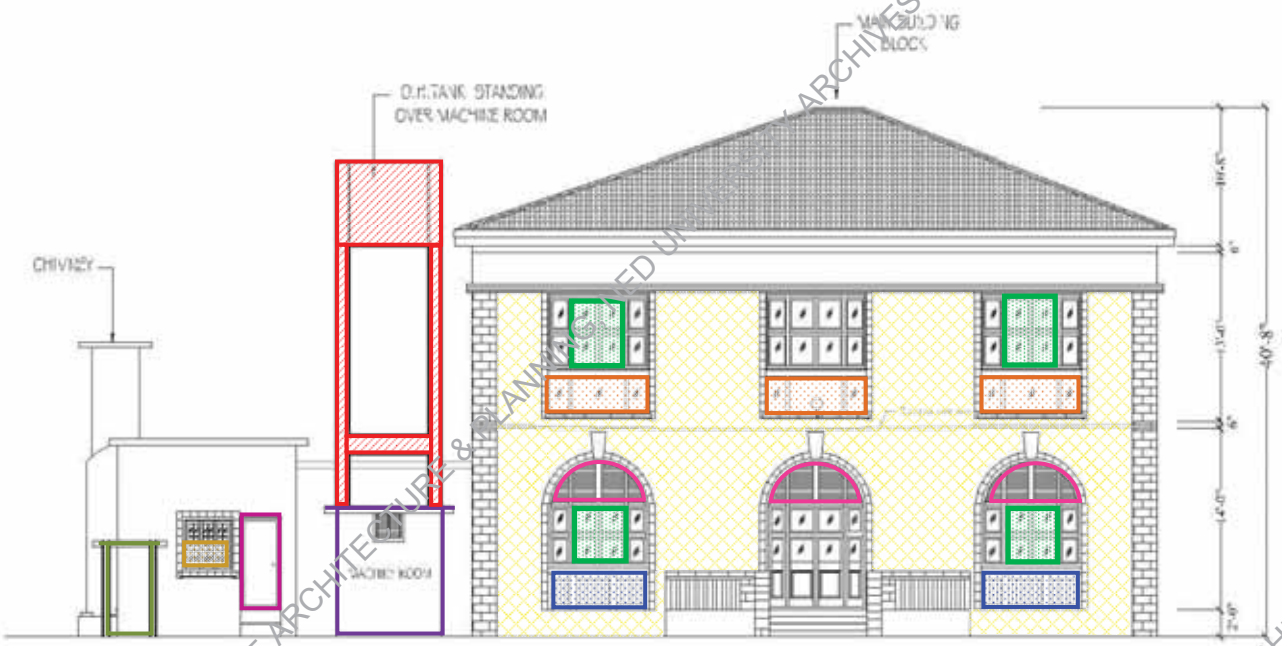


Figure IV

LEGEND

- *Dana* plaster
- Parapet filled with cement
- Parapet wall covered with net frames
- Window covered with net frames
- Glass added
- Later added over head tank
- Later added room for water pumping machine
- Original door closed temporary
- Altered window to fit window AC
- Later added generator stand

ALTERATIONS

WEST ELEVATION

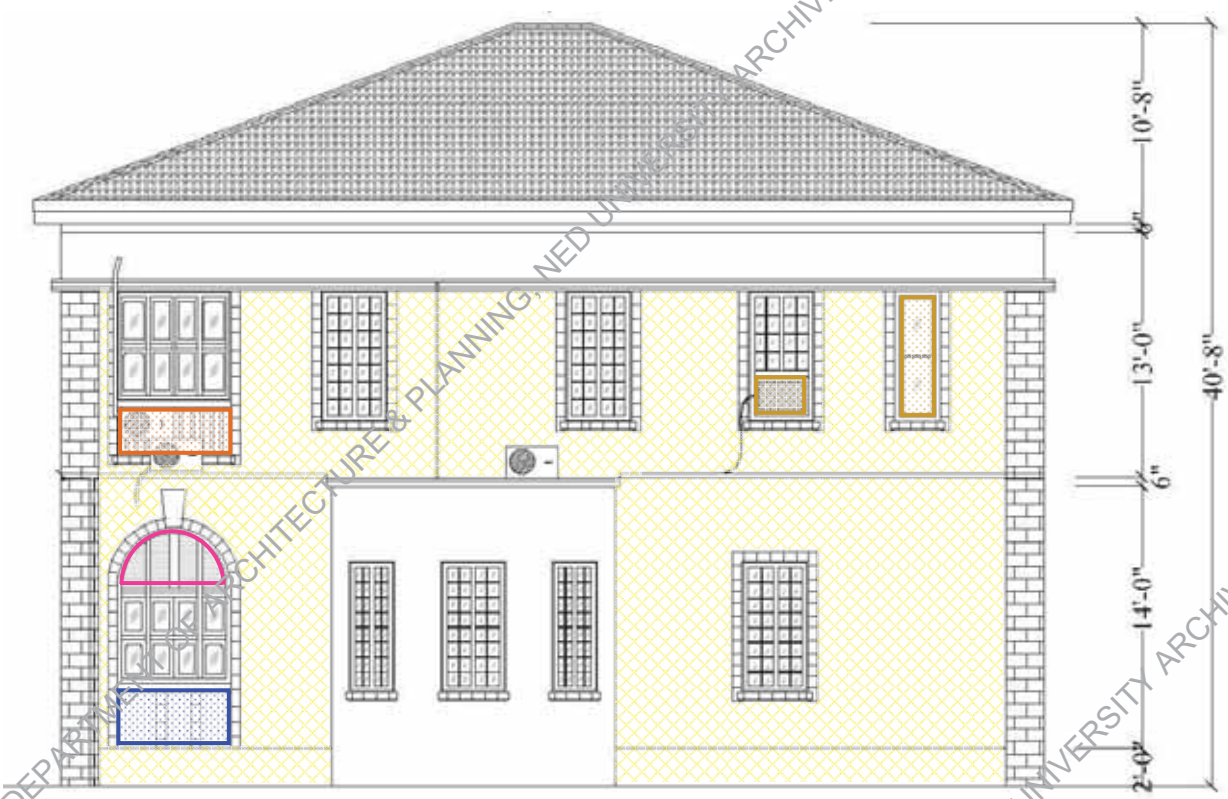


Figure V

LEGEND

- *Dana* plaster
- Parapet filled with cement
- Parapet wall covered with net frames
- Altered window covered with net frames
- Glass added

ALTERATIONS

SOUTH ELEVATION

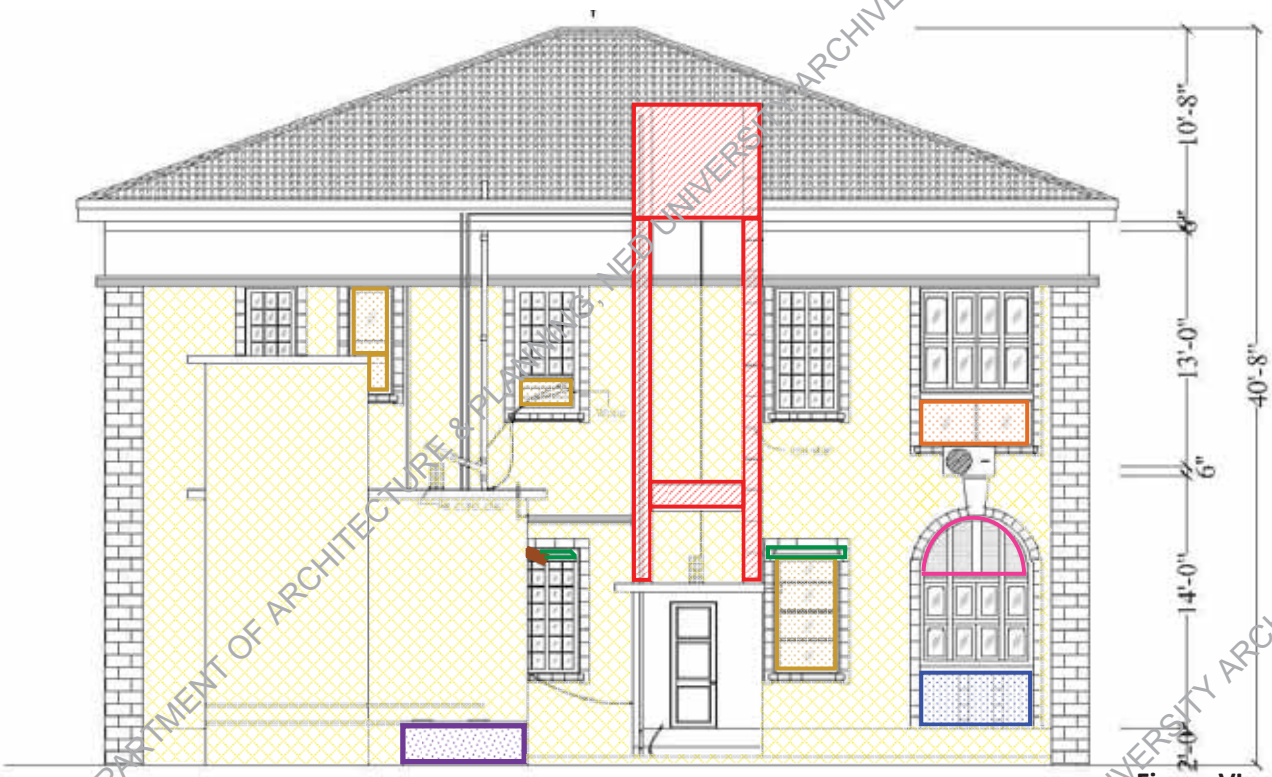


Figure VI

LEGEND

- *Dana* plaster
- Parapet filled with cement
- Parapet wall covered with net frames
- Altered window covered with net frames
- Glass added
- Later added over head tank
- Later added Washing area
- Temporary shade

ALTERATIONS

NORTH ELEVATION

ALTERATIONS IN THE INTERIOR OF BUILDING:

i. Conversion of Kitchen into Office Space

The extended wing on the northern side of the building was originally the kitchen and service areas. This is indicated by the existence of the original chimney structure. This kitchen space is presently converted into an office. The chimney has been sealed with block masonry from inside and turned into a decorative niche. A separately built structure (discussed in the section of later additions to the plot) now serves as the kitchen and staff dining area.

Kitchen converted into an office where the original chimney is sealed from inside.

ii. Conversion of Semi-open Verandahs into Closed Spaces

The western front of the bungalow opening on to the large open lawns has a verandah/ corridor on both the floors. This space originally served as a transition between proper indoors (rooms) and the outdoor patio and open spaces. The longitudinal verandahs (52ft. long and 8ft. wide) were meant as a 'semi open' spaces looking onto the lawns. But later alterations have resulted in conversion of these into closed spaces. On the ground floor this area is being used as a dinning/ refreshments' serving area, as it is adjacent to the conference room. Similarly the first floor verandah has been converted into a meeting room and part of it as an office, by dividing up the space with a partition wall.

a. Interior view of the virandah converted into a closed space on western side of the building on ground floor.
b. Parapet wall being filled with cement mortar.

Both the verandahs have been converted into closed spaces probably to create an air conditioned environment. The stone parapets on both the floors have been filled in with cement mortar. On the external face of the first floor stone parapets netting is also fixed which creates an unsightly look on the exterior.

iii. Subdivision of a Room on First Floor

The room on the south-eastern corner of the first floor has been subdivided into three smaller spaces. The partitioning walls are of block masonry, having a thickness of only 8 – 10 inches. The subdivided spaces include a staff room, a storage space and a toilet. The shower fixture inside the storage space is indicative of previous alterations as well.

iv. Flooring in GF Conference Room

The original wooden flooring in the conference room on the ground floor has been covered with a carpet. Underneath the carpet the wooden planks of original floor can be seen. The wooden flooring is of a good quality, but has been stained with adhesive/ glue used for sticking the carpet. If properly polished this original floor has the potential of being restored completely.

The wooden flooring and skirting in conference room on ground floor, showing stains of carpet adhesive.

v. Wall Surfaces

The interior wall surfaces have not been altered much, except for the regular paint coats, using either matt finish paint or oil based paints in desired color.

LEGEND

- Verandah converted into dining space/
- Kitchen space converted to office
- Fireplace closed with masonry
- Original door temporarily closed
- Timber flooring covered with carpet
- Stone parapet filled with cement
- Altered windows
- Flooring needs to be treated
- *Dana* plaster
- Later added washing area

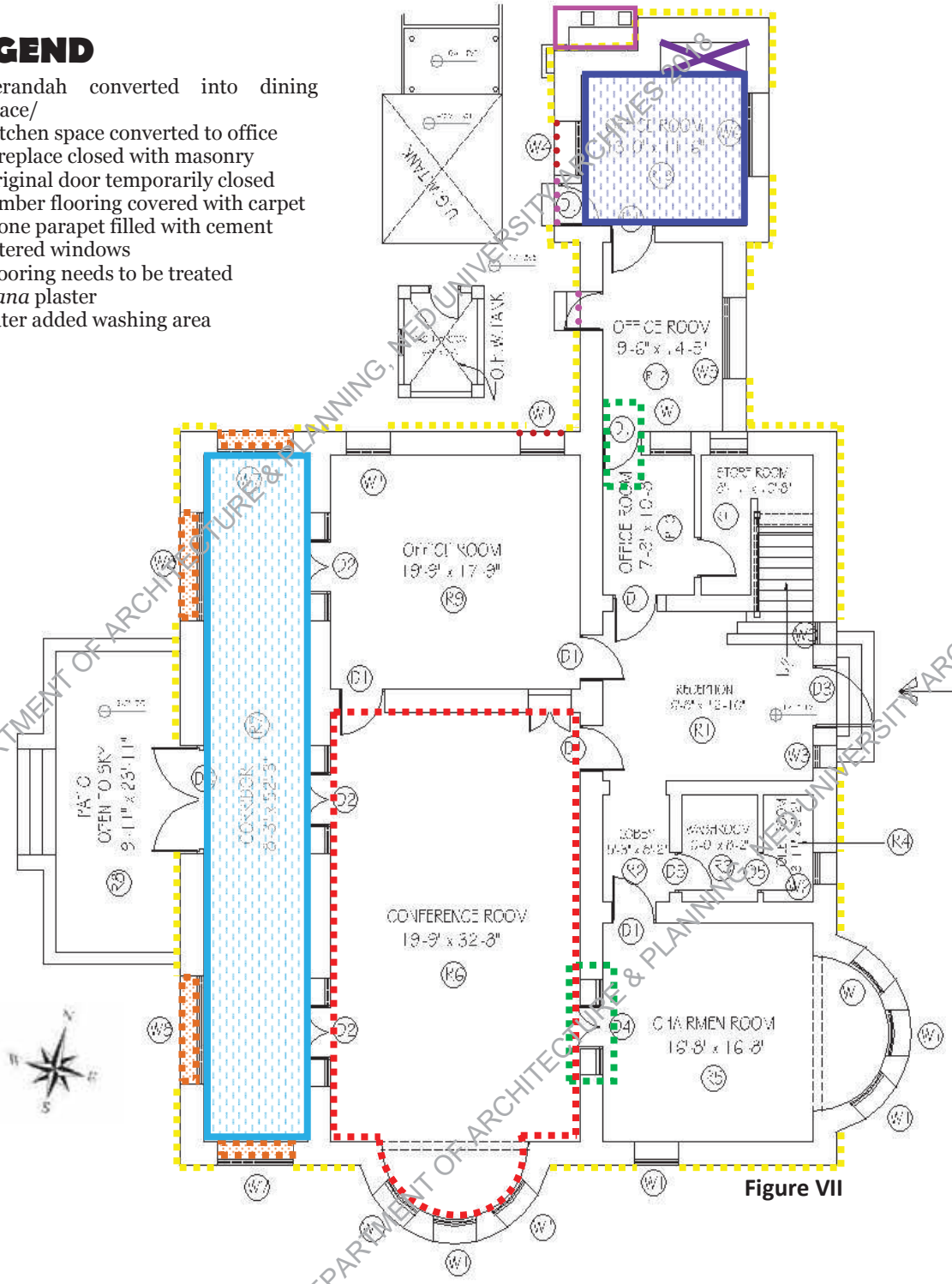


Figure VII

INTERIOR ALTERATIONS
GROUND FLOOR
(MAIN BUILDING BLOCK)

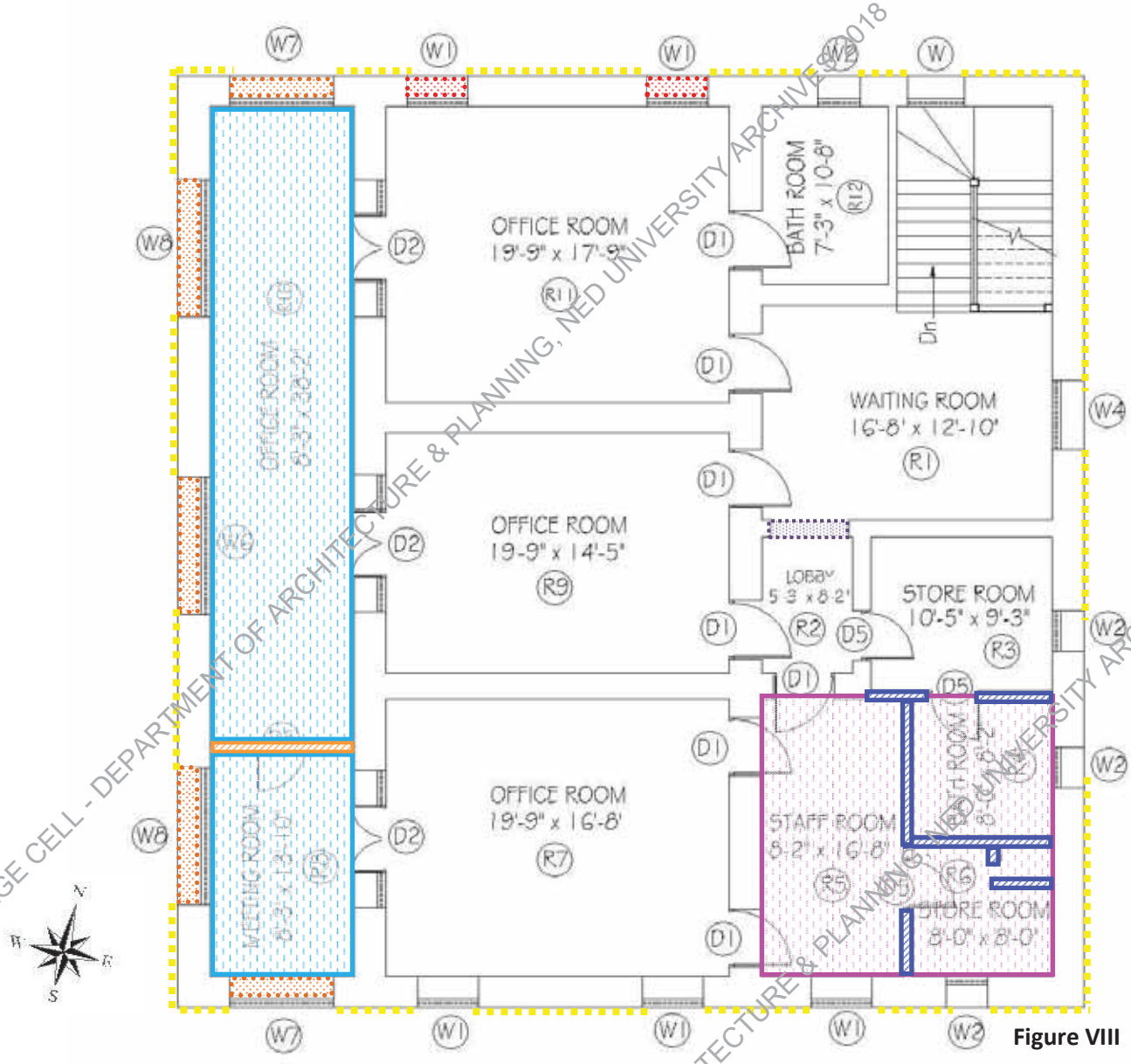


Figure VIII

LEGEND

- Verandah converted into office
- Parapet filled with cement i.e. closed
- Altered windows
- Room converted into toilet, store & staff room
- Later added masonry partition walls
- Later added glass partition wall
- Later added Aluminum door
- *Dana* plaster

INTERIOR ALTERATIONS
FIRST FLOOR
(MAIN BUILDING BLOCK)

GENERAL PROBLEMS CAUSING DECAY OF ORIGINAL BUILDING MATERIALS:

i. Water Seepage & Moisture Stains

Moisture inside buildings penetrates either from the subsoil or from any other localized source inside the building. The National Foods Ladies Club building does not show any signs of rising damp from the ground, but at certain locations moisture stains have been observed on the external masonry surfaces. Three basic causes for these localized moisture stains at different locations are observed on the site.

- Watering of flower pots and beds placed too close to the building
- Leakage from drainage pipes in wet areas
- Water dripping from the drainage pipes of air conditioning units

Al of these causes are creating localized staining and micro/macro biological growth in masonry. Once these causes are eradicated through proper repairs/ installation of drainage pipes; and the removal of all plantations from the immediate vicinity of the structure, the damages done by the presence of water can then be treated after the affected parts of masonry are dried properly.

Seepage and moisture stains due to localized water sources.

ii. Faulty Slopes in Flooring

The problem of poor floor drainage slopes is also observed in some areas. This results in formation of water pools that are damaging to building materials; and in addition can cause accidents due to slipping. This problem is quite prominent at the front patio, where watering of potted plants results in frequent presence of water. A similar problem was observed in the toilet of chairman office on ground floor. The stagnating water causes its slow penetration into the sub-floor through mortar joints of tiles, damaging them in the process and eventually resulting in further sinking of the floor. Water penetration due to seepage into structural members can also result in erosion of steel reinforcements causing cracks in the RCC members.

Pictures showing faulty slopes in flooring of patio located on western side, causes frequent presence of water on it.

iii. Dirt Accumulation and Soiling on Horizontal Surfaces

The National Foods Ladies Club building is ideally located within a plot having ample open spaces and a dense foliage that acts as a buffer between the road and the building. This setting of the building has been a reason for the well preserved state of the structure; especially in terms of soiling and dirt accumulation. The environmental pollution due to heavy traffic and public transport on the access road gets filtered thus has very little impact on the building. The façades of this building however, show some signs of soiling, apparent by a change in coloring of stone, due to dirt accumulation, growth of mirco-biological film and bird droppings, especially on horizontal surfaces such as cornices,

windowsills, etc. These would require proper cleaning using mild chemical treatments and scrubbing. More stubborn stains would require intense cleaning with stronger chemicals (See Appendix I).

iv. Staining due to Bird Droppings

As the site of the club is surrounded by large trees, inhabited with hundreds of birds in them, the problem of bird droppings is quite severe. The most seriously affected areas are the roof top and cornice bands/ ledges. In locations this problem is so high that some areas of the façade are completely covered with white stains. These give an unsightly appearance to the building; and may also cause some damages to the stone because of their acidic content.

Red khaprail tiles, showing stains of bird's droppings.

v. Dislodging of Roof Tiles by Roosting Birds

The dense population of birds, especially pigeons that sit on the roof in large numbers result in dislodging of the terracotta roof tiles (*khaprail*).

vi. Macro and Micro Biological Growth

The problem of biological growth is very minor in the case of National Foods Ladies Club. Only small patches/ areas of stone masonry are affected by moisture; especially where flower pots are placed in very close proximity to the building or AC/ plumbing pipes are causing continuous wetting of stone. The moisture trapped in mortar joints or cavities in stone masonry results in promulgation of biological growth. Macro plant growth was observed only in one location, that is, the corner joints of the steps of patio. Measures should be taken to stop the water penetration into masonry, or else this problem become more severe.

Areas showing biological growths.

RECOMMENDATIONS FOR PROPOSED RESTORATION/ RENOVATION:

The National Foods Ladies Club is an important architectural heritage of Karachi, belonging to a typology (colonial period residential bungalows) for which very few and rare examples have survived in the city. But in terms of the property value; especially after the plots' conversion into commercial usage, the increased pressures of economic viability cannot be ignored. The by-laws applicable to the site allow increased built-up areas. The challenge for developments on the site is to incorporate the growing need and commercial pressures with a sensitivity that allows a respect for the old while making place for the new.

The detailed survey and analysis of this site and its historic structure/s give an understanding to the root cause of the identified problems, as well as the potentials of the site. Based on this understanding some suggestions/ recommendation are being made to guide the design process and ensure that the interventions done n the future are geared towards better preservation and conservation of this important heritage property; complimenting the original layout, design scheme and the overall ambiance of the site.
The proposed recommendations cover the overall aspects of the site as well as the issues of repair and maintenance within the historic structure of the main bungalow.

i. New Block to Accommodate Expanding Needs

The most important aspect in context of future development of the site is the introduction of new blocks. According to the by-laws an approximate area of up to 21413 sq. ft. can be utilized for further new constructions on the site. How the new relates with the existing features of the site in terms of placement and designed vocabulary is the most important and crucial question. On basis of an analytical review of the site, possibilities of locating the new block/s is marked on the site plan (fig. IX). These are proposed keeping in mind the axial approach to existing building, as well as consideration for existing mature trees on the site. It is recommended the architectural vocabulary and height/ mass proportions of the block are developed in a manner that they do not become too overbearing on the site, and help accentuate the historic structure. The new structure in itself should be a mark of contemporary design. Keeping the character of the site in mind it seems most

appropriate that the approach towards design of the new block/s should be in accordance with principles of green building.

According to the KBCA regulations the foot print for a commercial plot should not exceeds more than 65% of the total area. In case of National Foods Ladies Club, the total covered area at present is 14.5% and remaining 50.5% can be built upon; i.e. 6629.77 ft² is already built-up area and 23044.3 ft² more is allowed for construction.

In fig. IX the suitable areas for the extension are being proposed by keeping in mind the area limits i.e. 65% and the FAR 1:3.

- 7757.163 sq-ft opposite to the western elevation of the main building (marked with light blue color in fig. IX). The structure can go up to level of 3 floors; giving a total FAR of 23271.489 sq-ft. If required its basement area can be extended (as marked in ochre dotted lines) to add another 4489.1828 sq-ft area at the basement level.
- 1153.07 sq-ft in northern side (marked with pink color in fig. IX). FAR would be 3459.21 sq-ft, if the structure goes up to 3 floors.
- 1606.12 sq-ft in northern side adjacent to the out-house (marked with dark blue color in fig. IX). FAR would be 4818 sq-ft for 3 floors.

By adding the proposed new blocks the foot print of the built-up area (at ground level) will increase to 12855.048 ft², which makes 43.2% of the total area. The total FAR acquired would increase to a total of 36385.128 ft2 which is 40.87% of total allowable FAR. The additional blocks proposed to be built on site cover a total area of 8219.2 sq-ft at ground level.

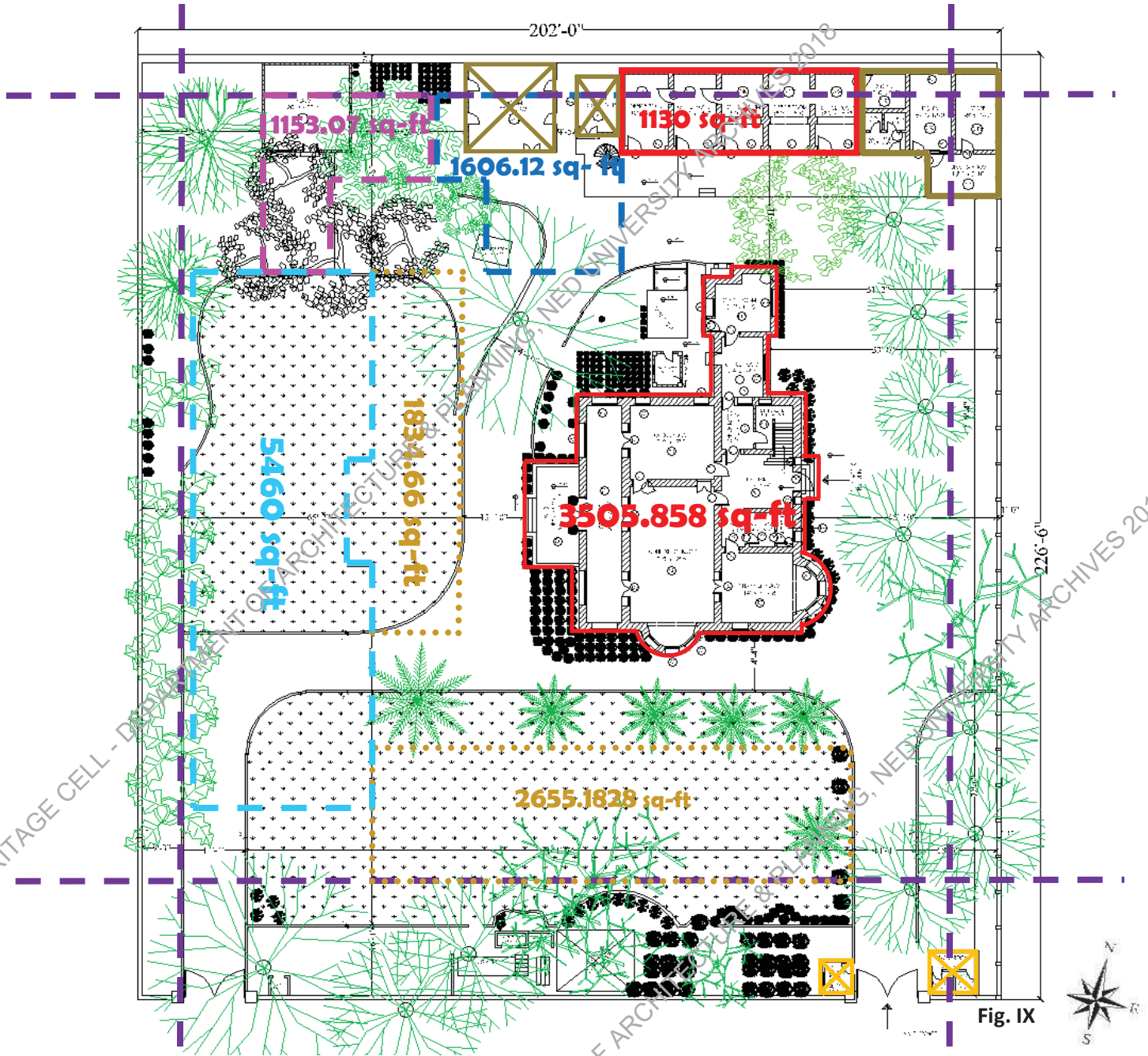


Fig. IX

LEGEND

- Original Structures
- Later added blocks can be demolished
- Later added blocks can be redeveloped
- Existing trees to be preserved
- ... Building bylaws (COS: Back: 10', Sides: 10', Front, 32')

• Acc: to regulations, area constructed should not exceed more than 65% of the total area.
• Total plot area: 45773.2 sq-ft
• Total covered area: 5612.58 sq-ft
• Area coverage out of total area: 40039.42 sq-ft

Proposed area for new construction acc: to regulations: 65% of total area: 29673.8 sq-ft

- Block: 5460 sq-ft
- Basement 4489.1828 sq-ft (if required)
- Block: 1606.12 sq-ft
- Block: 1153.074 sq-ft

Proposed construction can be made up to 12855.048 sq-ft, up to 3 stories.

PROPOSED EXTENSION

ii. Retention of Chimney as an Important Architectural Feature

The chimney located on the northern side of the building being an important architectural feature of the original layout and mass composition, is strongly recommended to be retained in the new design. Although the original use of the chimney is no longer valid due to the conversion of original kitchen space into an office and construction of separate kitchen area; yet retaining the chimney mass will ensure keeping intact significant evidence that gives important information on the original plan scheme and also preserves the original massing of the historic structure. Being a rare surviving sample of this architectural feature the chimney adds significant value to the building and adds to its parameters of merit.

iii. Preservation of Old Trees

The site is surrounded with fully grown mature trees on all sides. The variety of species present provided with an interesting range of foliage and silhouettes that can be used to an advantage for creating vistas and natural canopies. The outdoor landscaping needs to be planned around the existing trees to make good use of this natural element of the site. The decision for placement of new blocks on the site should also be dictated by the existing pattern of mature trees on the site. The proposed demarcation for possible locations of new construction is based on an analysis of existing tree locations, nestling the proposed block/s in pockets of available clear patches; ensuring that none of the mature trees on site are disturbed by the new construction. Only the L-shaped connection on the north-western corner, proposed as an optional extension would disturb three Chikoo trees which are relatively small in size. If the decision to construct on this proposed footprint is taken then provision should be made to relocate these three trees to another location on the site before construction is started.

The trees on site can be properly pruning and trimmed to maintain the desired density of foliage and create vistas that enhance specific views of the site.

iv. Re-opening of Second (main) Gate

In order to create a properly controlled circulation of vehicles on the site it will be appropriate to make use of the second gate as well. This way controlled entry and exit to and from the site can be managed. Since the new block is also being proposed on the western side of the plot, the opening of the gate on that side will allow direct access of the vehicles in to the basement parking area, minimizing the on the surface vehicular movement. It will also ensure that most of the traffic movement stays away from the historic structure, thus their adverse effect on the building from vibrations as well fuel fumes is reduced to a great extent. Suggestions made to use the second door, would be very useful as well a beneficial from security point of view. This proposal can work as an ideal for the ease of vehicular movement by acting as one way traffic system. And for security check it would be easy to maintain a record of in and outward movement of vehicles as well as pedestrians.

v. Retaining the Structure of Outhouse

The block comprising of the original outhouse area has a sound structure, and in use accommodating office spaces. It is recommended that this structure is retained in the new development scheme for the site. Retaining this structure will primarily be a gaining point towards achieving better conservation principles; by keeping intact the original layout scheme on the site. In addition, this will achieve positively towards green building concepts. And secondly it will allow by-passing the KBCA regulation of keeping 10ft or 3m of compulsory open space on the rear side of the plot, which will basically be an un-utilized and wasted area. Construction of a new block on this side would mean bringing the built-up area much closer to the rear elevation of the existing building. The existing block can be refurbished completely to accommodate the present requirements of the users.

vi. Removal of Over-head Tank Structure

The free standing overhead tank tower structure located on northern side of the site, being a later addition to the plot, has been placed too close to the main structure without any consideration being given to negative visual impact it has on the rear façade of the building. Since the outhouses behind the main building are being used as important office

space, and this usage will continue in the future as well, the visual importance of the rear façade of the main building has increased. For this reason it is essential that the unsightly structures randomly added to the rear side of the site, including the over-head tank structure must be removed. A properly designed tank tower, which can be incorporated with the required lift shaft, may be introduced on the eastern side of the building. This can be a free standing structure bearing a contemporary mark and well integrated within the overall master plan of the site.

vii. Provision of Proper Parking Spaces

The increased usage on the site will require provision of additional parking facilities. A properly designed basement parking is recommended to be provided in the new block, so that the surface parking area which can give an unsightly appearance to the site could be reduced to a minimum. The 2655.1828 sq. ft. area of the proposed new block can accommodate approximately 30 – 35 cars. A properly designated area for approximately 40 – 50 motorcycles/ bikes also needs to be provided. This can either be accommodated within the basement parking or provided separately along southern or eastern boundary wall of the site. The existing on the surface parking along the eastern boundary of the plot can alternately be re-designed properly to accommodate additional parking strip for car and also be used as loading/ unloading area for service and delivery vehicles.

viii. Removal of *Dana* Plaster from Stone Façade

The *dana* plaster applied on all external surfaces of the stone masonry completely hides the original rich texture of dressed stone. An attempt should be made to restore the original surface texture by removing the *dana* plaster. Care should however, be taken to ensure that the removal of this later applied cement plaster layer does not damage the stone surfaces. A sample area at the rear of the building must be first tested for appropriate methods of plaster removal, carefully checking the acquired results before taking a final decision for its removal and the appropriate method/ technique with which it should be done.

ix. Repair and Restoration of Wooden Doors/ Windows

The original doors, windows/ ventilators of the main building are made of timber, with glass panes. The panels and frames of all the doors and windows have been painted and repainted over the years. This accumulated layer of paint should be scraped completely, to the extent that the original color and texture of wood is exposed. This cleaned wood should then be polished with clear lacquer polish, so that all the doors and windows become coherent and their interior and exterior finishes become the same.

In addition to this, wooden louvers of the semicircular arched windows on all sides of the verandah should also be repaired where broken, cleaned, polished and made functional. The alterations done to various windows should also be reverted and the necessary repairs to restore these to original state should be undertaken.

x. Installation of proper ducting system and wiring conduits for ACs

The most damaging alteration that the building has undergone in the past years is the installation of the air conditioning system. Since this is done in a piecemeal fashion, proper ducting for drainage as well as wiring has not been planned. As a result the entire building has been severely deface and substantially damaged due to water penetration. A properly planned air conditioning program need to be developed that keeps in consideration the future possibilities as well. The installation of the entire system should then be done according to the developed master plan. This should include proper locations for the ACs, their drainage ducts, and wiring conduits. It is recommended that the system should be worked out either on a central air conditioning program or uses split units. Window type units should not be used, as they are the major cause for the defacing of the building façades. Placement of the outdoor unit of the split AC should be done on the ground a little away from the building, making use of low height screening barriers that can be incorporated as an element within the outdoor landscaping plan. The drained water from ACs can be recycled and used for watering the plantation.

xi. Introducing Properly Planned Service Areas

Presently in the original layout all the service areas including generator, underground water machines, storage and the overhead tank, are scattered all over the site. Ideally all

service areas should be clustered together in one zone/ or corner of the site. The structure required for these must be designed properly and integrated properly within the overall master plan.

xii. Plumbing and Electrical Works

The haphazardly installed plumbing pipes and electrical wiring that is presently defacing all four façades of the building need to be properly organized and installed in a proper manner. Proper conduit channels must be used to conceal the electrical wiring.

The external light fixtures on two corners of the building should also be replaced with more appropriate light fittings. It is recommended that instead of installing lights on the stone façades the building itself should be lit up in the evenings by using lights mounted on the ground or around the building.

xiii. Cleaning and Repair of Floors

The original flooring on both levels is pigmented cement concrete flooring tiles, which is at present in a very good state of preservation, except for a few locations where minor damage is observed. These damaged areas would require spot repairs. The entire floor can be revived with a fresh application of buff polishing.

xiv. Restoration of Stone Parapets

The stone parapet panels used in the openings of the verandah both on the ground as well as first floor have been closed by filling with cement mortar. This defaces the original design of these louvered style stone parapets, giving a negative impact of the exterior façades. All of these should be restored and brought back to their original shape. If for air conditioning purposes the space needs to be made airtight then plain glass panels can be fixed on the inner side of these parapets, so that the external appearance is not disturbed. In addition the netting fixed on the external side of these parapets on the first floor should also be removed.

xv. Discouraging/ Controlling Bird Population

In order to reduce the menace created by the presence of so birds on the site, some measures can be taken to control bird population; and also discourage them from settling on to the ledges and horizontal surfaces of the building. A few techniques commonly used internationally include;

- Stretching a synthetic mesh of unobtrusive color across potential roosting sites such as deep ledges, window openings, roof ridges, etc. But these can have an unaesthetic appearance on the building

- Strips of gel applied on ledges where birds may roost. This provides an insecure footing, discouraging the birds from settling down. But once the gel dries off it can become a nuisance in itself, because it adheres to the surfaces rigidly and could not be easily taken off.

- Low voltage wires, with small electric charge, can be stretches between insulators along the ledges.

- Other known methods are trapping birds and removing them from site, shooting or scaring them away by producing noise. But these methods seem cruel and would be criticize by the bird lovers.

As a long term preventive measure regular cleaning of the areas which are soiled by bird droppings should be made as part of the continuous upkeep routine. This will ensure that the build-up does not happen and surfaces are washed off before the soiling becomes so severe that it would require professional cleaning measures.

xvi. Prevention and Removal of Biological Growth

The presence of moisture is the man cause for biological growth. In the case of National Foods Ladies Club three main sources of water are identified earlier. Of these, the remedial measures for leaking plumbing pipes and AC drains are already discussed. The

most extensive impact of water is through the third source, i.e. the watering of potted plants placed too close to the building on all sides. These should be removed and proper landscaping should be done with appropriately DPC lined planters and flower beds placed at a distance from the stone structure. Once the sources of water are tackled with appropriate measures for cleaning of surfaces soiled by organic growth can be carried out. First attempt at cleaning can be done with simple brushing and scrubbing with dry bristle or soft wire. The surface can also be washed with jetting with high pressure, low-volume water lance to soften the crusts. However, rapid re-colonization is most likely if the source of moisture is not eradicated completely. Use of mild toxic wash can be effective for delaying the reoccurrence.

Macro plant growth can be killed by spraying with an appropriate weed killer. It is important to kill the roots and remove any humus which may encourage future growths. Any gaps or cavities created due to the removal of plant growth should be repaired/ filled with lime mortar (see appendix II).

CONCLUSIONS

Maintenance of historic buildings requires continuous conservation measures, decision making for which requires an appropriate understanding of the historic materials and their construction techniques, structural systems and their behavior, their defects and causes of problems, etc. Without gaining this understanding remedies should not be suggested, as they could result in damaging the original materials. Only on basis of appropriate knowledge one can take proper conservation decisions that would prove to be beneficial for the building, and ensure a longer life to the historic structure in question.

A comprehensive action plan should be formulated for long-term maintenance of historic properties which should also take into consideration training of the staff responsible for the regular upkeep. In addition the users should also be made aware and conscious of the historic significance and value of their premises so that they use it with more respect without causing damages to historic materials.

A good conservation policy should ensure the following;

- It must be understood that natural building materials need to be handled with care and they should always be treated gently. This is not only true for stone, but for all the building materials used in historic buildings.
- The original layout and overall scheme of the building should not be tempered, and retained in its original form to as greater extent as possible. Minor and reversible changes may be undertaken if they are absolutely necessary for a proper functioning of the usage within the premises. But if the usage is such that it is having damaging effects, possibilities for alternative appropriate use must be considered.
- Any later additions or phases of development in the life of the monument are respected as part of its history (only those which deface or negate the fabric should be removed).
- All repair and maintenance interventions should have sensitivity and respect towards original materials (use of any incompatible material to should be discouraged).
- The monument and its surroundings are treated as a comprehensive part of each other and should be treated to complement one another.
- The guidelines, limitations and preventive precautionary measures for appropriate use of the premises should be conveyed to the users and maintenance staff, to ensure that after any restoration measures, proper care and continuous conservation is being done to maintain the site in an appropriate manner.

Conservation of historic buildings is a continuous task, where the objective is to keep the monument intact and surviving for the future generations to witness, in its true spirit and essence. The aspect of economic viability nevertheless, cannot be ignored, and this can only be achieved by putting these structures to purposeful usage rather than just trying to maintain them as museum pieces. The decision for conversion of National Food Ladies Club into the head office of National Foods Ltd. is a positive step in this direction. By adopting an appropriate conservation and restoration strategy the owners of this important historic property will be doing a positive contribution towards preservation of Karachi's dwindling heritage.

APPENDIX I:

CLEANING OF STONE FAÇADE

The stone façades of the buildings show dirt accumulation as well as black crust formations at various locations. To clean the entire façades, chemical cleaning by the following process is recommended.

Proposed method for cleaning of stone:

Step 1:

- Gently brushing off all loose particles; sand, dust, etc. Removal of loose fragments as well as dislodged pieces of stone should also be done at this stage. The location of particles that are of substantial size can be mapped and marked on site or photographs.

Step 2:

- Temporary filling or repairing of the open mortar joints and decayed pointing is to be done before starting wet cleaning.

Step 3:

- Gently spray distilled water on the surface of masonry (starting from upper parts). Scrub with sponge dipped in mild soap. Drain off with spray of distilled water. Let the masonry dry off. If black patches of dirt or black crust are still observed then clean only these parts with Ab-57 jelly, in the following way.

Step 4:

- Cleaning of soiling and black crust with Ab-57 jelly. If the biofilm is wet, it will be allowed to dry first. Dried bio-film will be brushed and the surface applied with solvent jelly Ab-57. The jelly has a pH of around 7.5 and the following composition.

Composition of Ab-57 jelly:
Add:
2.5 gr. desogen mixed in 2.5 ml. of water
2.5 gr. of ammonia bicarbonate in 100 ml. water
15 gr. of carboxymethyll-cellulose in 100 ml. of water.
Mix the three to get 50 ml of jelly.

The solvent jelly is applied to the areas to be cleaned, with a brush. The area is then covered with a sheet of polythene and left for a few hours. It is then cleaned by a sponge, dipped in distilled water.

If algae persist in certain spots, these can be treated with biocide treatment. This is done with a solution of 10% benzyl chloride or 2% zefiran in water. But this should be done after the necessary repair works.

Step 5:
Repair work, where deemed necessary should be undertaken after cleaning with gel and before biocide treatment. The lime mortar used in all repair works must be prepared according to the specifications given in Appendix II.

- Re-pointing and filling of gaps with permanent lime mortar

- All horizontal surfaces of windowsills and cornices to be sealed, by covering the whole surface with a layer of lime mortar. Once the surfaces are sealed the water will drip over the edges of these surfaces. These areas should be regularly monitored and repaired whenever required.

Step 6:
If any traces of salts have penetrated inside the building, they will start to appear on surface in the form of efflorescence once the masonry is dry. These can be cleaned by paper pulp technique. This should be done after the problem of dampness penetration has been dealt with. First the building will be aired and allowed to dry completely. Salt deposits/ salt crusts or efflorescence that appear on surface after drying, can be simply brushed off. The remaining salts can be cleaned with paper pulp technique. In this method, paper sheets wetted with distilled water, are applied on areas that have crystallized salts. The paper is left to absorb all soluble salts, and then taken off.

APPENDIX II:

LIME MORTAR TREATMENTS

Lime mortar treatments are to be done for damaged or decayed mortar joints, as well as for re-pointing and filling of gaps in masonry. It can also be applied as a protective layer on horizontal surfaces, for prevention against further deterioration. Lime mortar of specified composition should be used for this purpose.

It is observed that for previous re-pointing treatments, use of cement mortar was employed. It is an established fact that use of cement with stone, results in damage and eventual disintegration of the stone, specially in the presence of moisture. However, removal of cement pointing is not recommended here. As the cement mortar adheres strongly with stone, if taken out forcibly, it may result in damaging the edges of the stone masonry blocks. Only loose cement mortar may be removed by scrapping. After a thorough cleaning of the loose mortar, all open joints and gaps in joints should be re-pointed with lime mortar. Loose stone fragments can also be consolidated by grouting with lime mortar.

Preparation of lime mortar for repair: The lime mortar to be used for repair works should have higher porosity and water absorption, whereas less density and strength than that of stone. According to a research done on repair plasters of historic buildings in Karachi by Yasmin Cheema, it was found that these were lime plasters of a high water absorption capacity and porosity, and low density. Their binder-aggregate ratio was also different from the ones normally used. Generally, binder and aggregate ratio in mortar is 1:2 or 1:3. Whereas, laboratory tests of old plaster samples of British period repair lime mortar, show lime (binder): sand (aggregate) ratio of 3:1. This lime mortar has better cohesive properties, thus recommended for used in all repair works.

The lime mortar prepared for repair of joints, filling of gaps, and protective coating of horizontal surfaces should either have a ratio of 3:1 (lime : sand) or it should be 1:3 (lime : aggregate) in which two parts of the aggregate should be of crushed limestone of the same type as used in the construction of the building. This mortar should have higher porosity and water absorption capacity, whereas less density and strength, than that of stone used in the building.

In addition to this the mortar samples collected form the site should also be sent for an analysis of their composition and properties and the repair mortar prepared in accordance to the findings.