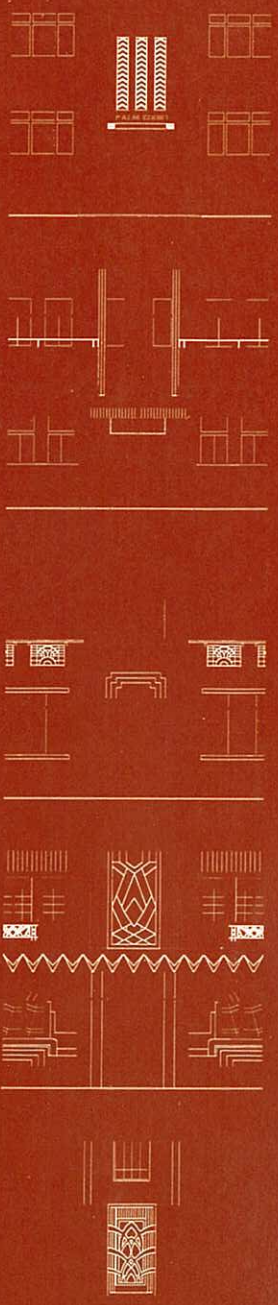


STUDY, RESEARCH AND DOCUMENTATION OF MARINE DRIVE PRECINCT FOR MUMBAI METROPOLITAN REGION

HERITAGE CONSERVATION SOCIETY

STUDY CONDUCTED BY RIZVI COLLEGE OF ARCHITECTURE CONSULTANCY CELL

RCA CC

MARCH 2001

List of Drawings

1

ART DECO ARCHITECTURE AND ITS ORIGIN

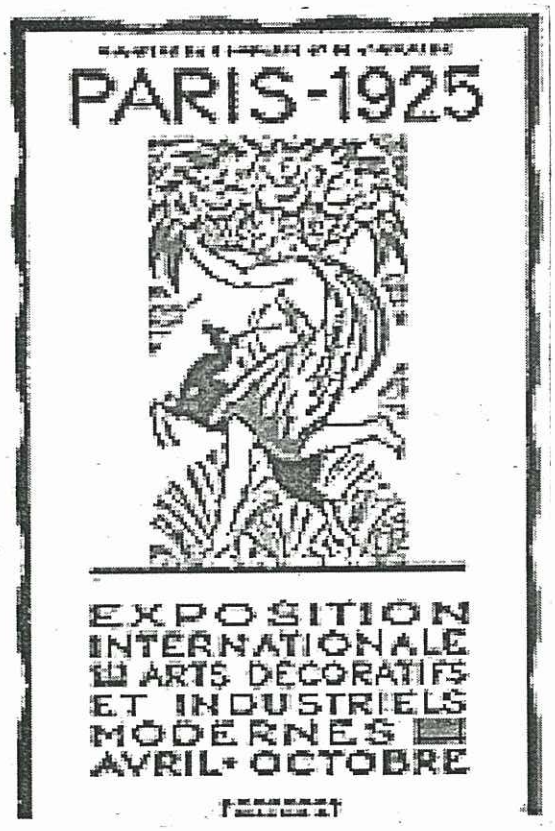
1 Art Deco Architecture and its origin

1.1 Art Deco also called STYLE MODERNE, movement in the decorative arts and architecture that originated in the 1920s and developed into a major style in Western Europe and the United States during the 1930s. Its name was derived from the Exposition Internationale des Arts Décoratifs et Industriels Modernes, held in Paris in 1925, where the style was first exhibited.

1.2 Art Deco design represented modernism turned into fashion. Its products included both individually crafted luxury items and mass-produced wares, but, in either case, the intention was to create a sleek and antitraditional elegance that symbolised wealth and sophistication.
The distinguishing features of the style are simple, clean shapes, often with a "streamlined" look; ornament that is geometric or stylised from representational forms; and unusually varied, often expensive materials, which frequently include man-made substances (plastics, especially bakelite; vita-glass; and ferroconcrete) in addition to natural ones (jade, silver, ivory, obsidian, chrome, and rock crystal). Though Art Deco objects were rarely mass-produced, the characteristic features of the style reflected admiration for the modernity of the machine and for the inherent design qualities of machine-made objects (*e.g.*, relative simplicity, planarity, symmetry, and unvaried repetition of elements).

1.3 Among the formative influences on Art Deco were Art Nouveau, the Bauhaus, Cubism, and Sergey Diaghilev's Ballets Russes. Decorative ideas came from American Indian, Egyptian, and early classical sources as well as from nature. Characteristic motifs included nude female figures, animals, foliage, and sunrays, all in conventionalised forms.

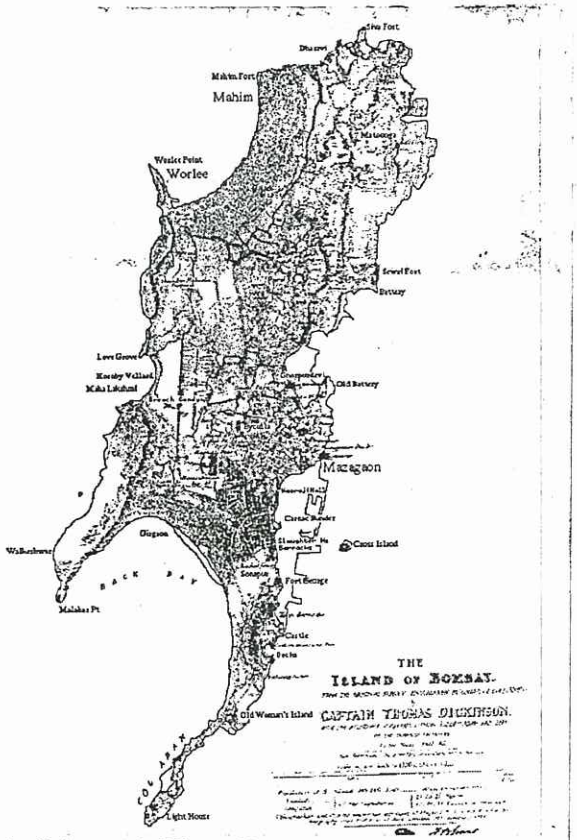
1.4 New York City's Rockefeller Centre the Chrysler Building by William Van Alen, and the Empire State Building by Shreve, Lamb & Harmon are the most monumental embodiments of Art Deco. Although the style went out of fashion during World War II, beginning in the late 1960s there was a renewed interest in Art Deco design



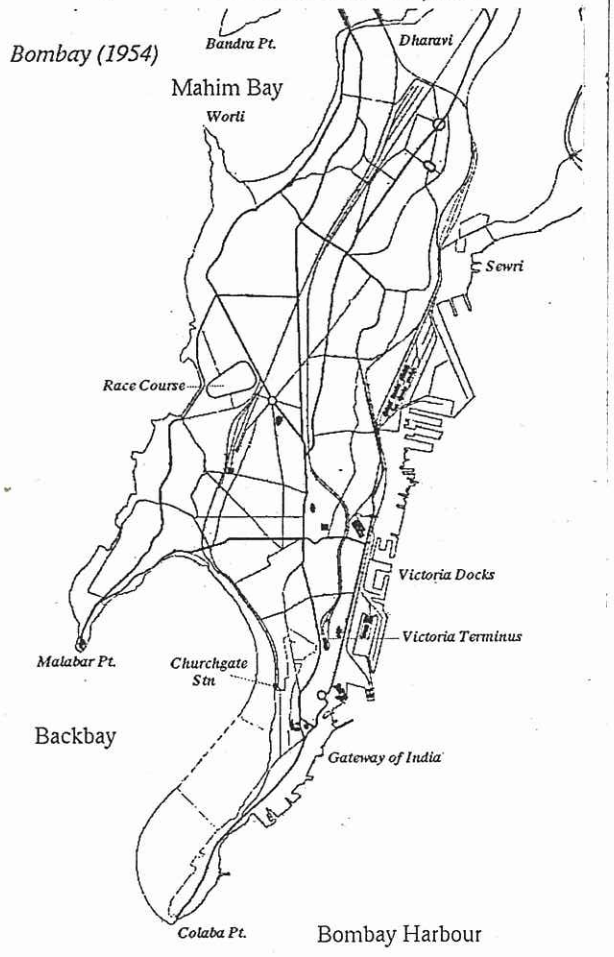
Paris Expo 1925 Poster
Source www.geocities.com

2

ADVENT OF ART DECO IN MUMBAI



Drg. 1. Schematic Map of Bombay Island City in 1846
Source Capt. Thomas Dickinson's Survey1812



Original US army map with the Perry Castaneda Collection, Univ of Texas.

Drg. 2. Schematic Map of Bombay Island City in 1954
Source www.thery.tifr.res.in

2 Advent of Art Deco in Mumbai

2.1 The Art Deco style in Architecture reached Mumbai around the 1930's. The areas along Marine Drive, the west of Oval Maidan and areas on the west of Cross Maidan extending upto Chowpatty exhibit a large concentration of Art deco buildings.

2.1.1 Refer Drg. 1 & 2 for Schematic Map of Bombay Island City in 1846 and 1954

2.2 Background, Origin and Growth

2.2.1 The first Backbay Reclamation Company was formed during the boom years of the early 1860's, with the stated purpose of reclaiming the whole of Backbay. With the end of the American Civil War, in 1865, a depression set in and land prices fell. The company went into bankruptcy and was liquidated. The government took over the narrow strip of land that had been created and gave to the BB & CI Railways for the purpose of laying a line from Churchgate to their new terminus in Colaba.

2.2.2 In1887 during Lord Reay's Government, a committee to prepare a scheme for the extension of the City was appointed the Committee recommended the reclamation of the Back Bay for the expansion of the City. No action was taken till 1897 when the Bombay City Improvement Trust was constituted and the Trust was given reclamation rights. The Bombay Improvement Trust successfully reclaimed 900000 Square yards at Colaba. This is known as the 'Cuffe parade' estate of the Trust.

2.2.3 Following which, in 1907, another Committee was appointed to consider a reclamation scheme. In 1911, these proposals were submitted for reclamation to the Government of India. The Government of India in 1912 sanctioned the expenditure necessary for investigations and preparations of estimates by, Messrs. Lowther Kidd & Co. This was followed by formation of another unofficial committee under the presidentship of Sir Vithaldas Thakersey, to advice Government on points bearing on the scheme. The Committee said in its findings,

" We are convinced that unless some means are found to provide extra dwelling accommodation in the Southern portion of the Island near the business quarters, the overcrowding in the City, proper will continue to increase with the inevitable result of forcing up rents still more. If the reclamation is practicable, as we believe it to be, it should be undertaken immediately. The strongest point in favour of the Reclamation being taken up immediately, is that Government will be able to provide a large area of land for residential purposes near the business quarters at a reasonably rate without appreciably affecting existing interests. In recent years, the shop rents in the fort have enormously increased and the demand for shop area is augmenting yearly. The burden of this continuously increasing rent cannot but affect the general public who must pay the same for the increased prices for goods. The schemes undertaken, by the Improvement Trust in the North of the Island, or the development of Salsette cannot meet this difficulty. If the unsanitary condition of the North part of Fort is to be improved by the partial demolition of the buildings to give sufficient air and light to the remaining properties, it can be made feasible only by the extra supply of land near the Fort, which supply the proposed reclamation will provide."

2.2.4 Another Committee presided over by Mr. Hill in 1913-14, recommended that Government should confine itself to reclaiming a small area of about 100 acres for the expansion of the existing public institutions. Following which in 1916, the Government of Bombay submitted an estimate for the reclamation of 220 acres of Back Bay.

2.2.5 In December 1917, a syndicate formed of some of the leading businessmen in Bombay approached Government for a concession to float a Company for the Back Bay Reclamation. In 1918 the reclamation rights of the Improvement Trust had expired and the difficulty in that direction till then existing, came to an end. Government finally decided to obtain a report on the scheme by an expert and telegraphed to the Secretary of State on 16-10- 1918 for the services of such an expert. Shortly Sir George Lloyd succeeded Lord Willingdon as Governor of Bombay on 16-12-1918, and on 30-5-1919 Sir George Buchanan's was asked to report on the scheme. Sir George Buchanan's report was received in September 1919 and in October 1919, following which an

application was made to the Government of India for sanction to the Scheme, which contemplated the reclamation of 1145 acres of land. The net cost of reclamation was estimated at Rs. 30 per sq. yard and the net proceeds at Rs 200 per Square yard. The cost / benefit projection in the application read as:-

"Allowing therefore for the largest possible margin of error both in the estimated cost of reclamation and the estimated value of the area available for sale or lease and without taking into consideration the fact that should all or several of the Government buildings in the Fort area be transferred to the reclamation and the sites on which they stand be sold together with the buildings themselves which would realise an enormous sum, it is evident that the proposed scheme, will be immensely profitable to Government."

2.2.6 The scheme was sanctioned by the Secretary of State on 4th May 1920 and the development department was formed on 18-11-1920 to carry out the scheme.

2.2.7 In the meanwhile the Consulting Town Planner, W. R. Davidge, had proposed a development scheme incorporating wide open spaces with recreational areas and a mixed residential and commercial land-use pattern.

2.2.8 The work finally began in 1920, but was plagued with delays and losses. The depression of the '20s led to a fall in property values.

2.2.9 In 1926 it was estimated that the work, at the rate with which it was proceeding, would be completed in 1945 at a cost of Rs 11 crores, 4 times the estimated cost.

2.2.10 The Backbay Enquiry Committee was set up. Spearheaded by K. F. Nariman and Manu Subedar, it uncovered financial irregularities and the fact that the sanction of the Government of India had been obtained through an incomplete presentation. The committee found that the dredging craft was inefficient, and had been bought before the sanctioning of the project. The construction of the sea wall was inadequate and 900,000 cubic yards of mud had escaped through it. They held the Advisory Engineer, Sir George

Marine Drive
Source Mehrotra/ Dwivedi (1995)

Buchanan, responsible, and recommended that only 3 blocks be completed. The project came to be known as Lloyd's Folly, after Sir George Lloyd, then Governor of Bombay.

2.2.7 Eventually 4 blocks were completed in 1929, a total of 439.6 acres. Of this 234.8 acres was sold to the military at a cost of Rs. 2.06 crores, and 16.6 acres was incorporated into the Marine Drive and its sea wall.

2.2.8 This reclaimed lands were later built over with apartment blocks were geometric oversimplified forms and features very different from the prevailing colonial and indigenous architecture. These modern blocks resembled the Style Moderne or the art deco movement emerging all around the world in the 1920's in Europe and the United States.

2.2.9 The growth and the popularity of this style led to a large concentration of Art Deco buildings in this area which is the biggest group of art deco buildings in India and arguably the biggest in the world after Miami Beach Art Deco in Florida, USA.

2.2.10 Art Deco buildings continue to be used by Bombay's social and business society as it came to symbolise the success and translated into a powerful statement of achievement by small town merchants and professionals. These buildings also represented India's first physical commitment to a new mythology. A style of architecture changing Bombay's image from a Victorian to a Metropolitan City.

3

OBJECTIVES AND STAGES OF WORK

3 Objectives and Stages of Work

3.1 The main objectives of the project are as under

3.1.1 Survey, Research and Documentation of an important group of Art Deco Buildings.

3.1.2 Interpret and analyse the data vis a vis recommendation concerning the safeguarding and contemporary role of historic (post industrial) areas

3.1.3 Preparation of guidelines to regulate urban transformation in conjunction with the existing architectural and urban design fabric

3.2 Stages of Work

3.2.1 Stage One intended to mobilise the research materials as well as completion of the base drawings for further survey. This stage also included a comprehensive photo-documentation of the area of study.

3.2.2 Second stage intends to undertake extensive conservation and buildings surveys. In addition to it architectural documentation of selected representative examples shall be completed.

3.2.3 Interpretation and analysis of the collected data and formulation of architectural guidelines will be accomplished in the third stage.

3.2.4 The fourth stage shall include compilation of the study into a final presentation report.

Targets set for the third as well as this stage have been achieved with this being the final report of the project

4

METHODOLOGY

4 Methodology

Drg. 3. Enlarged detail for grid reference
Source RCACC 1999/2000

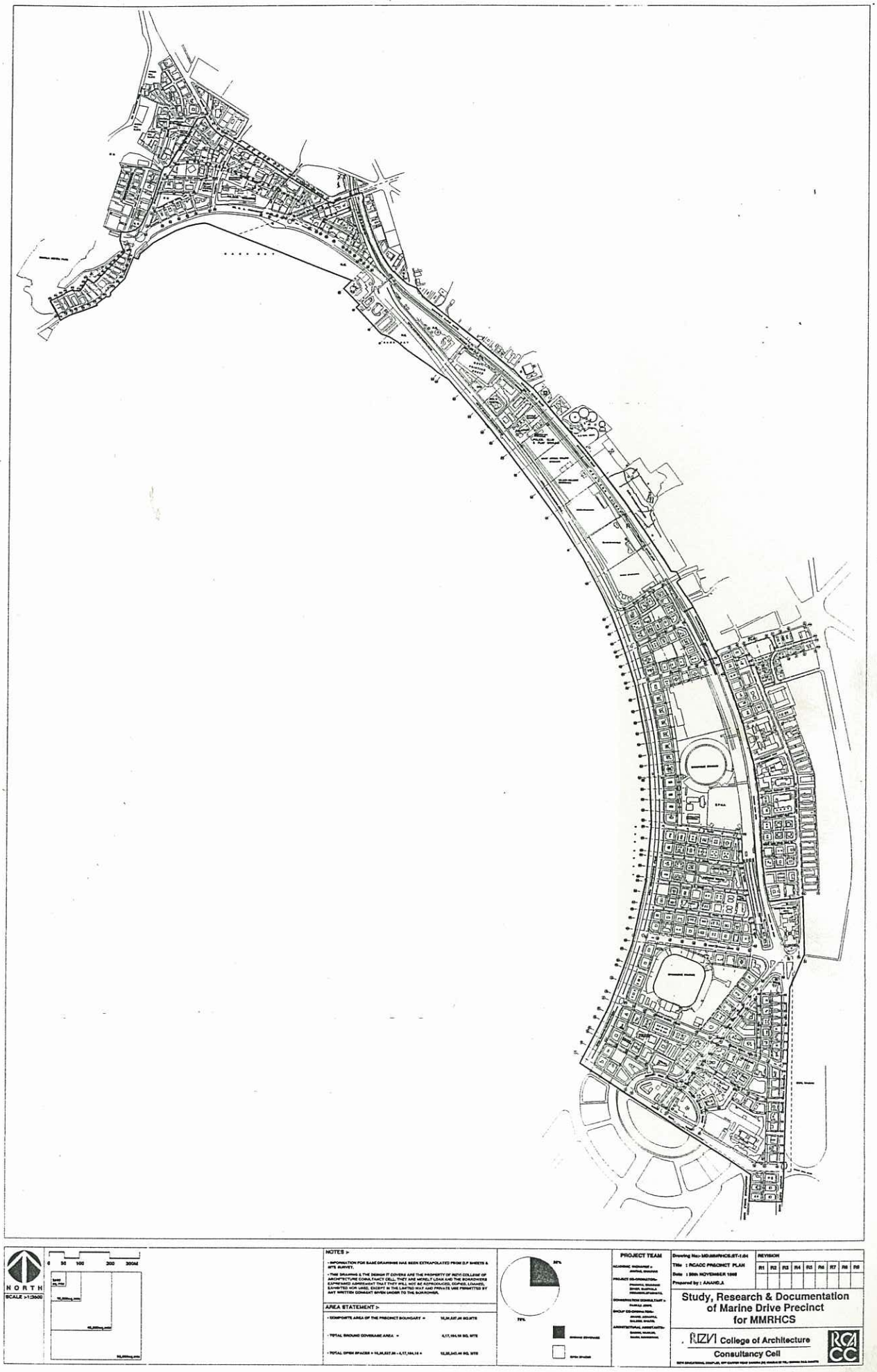
4.1 The project was initiated with vectorisation and stitching of the current Development Plan and City Survey Sheets to one consolidated drawing as the notified precinct stretched across Ward A (Part 1,2&3), Ward C and Ward D (Part 1, 2&3).

4.2 As many parts of the development plan drawings had not been updated since the 1960's substantial areas needed updating. This was achieved by extensive site survey covering more than one hundred and sixty hectares.

4.3 In order to acquire and consolidate the information collected for about five hundred and forty eight buildings it was felt necessary to evolve a set of questions through a medium of survey sheets. A reference grid system was also evolved to ease identification and cataloguing of buildings.

4.4 Refer Drg 3 & 4 for enlarged detail and grid reference system of Marine Drive precinct respectively.

Marine Drive
Source Mehrotra/ Dwivedi (1995)



Drg. 4. Grid reference of Marine Drive precinct
Source RCACC 1999/2000

4.5 Photo-documentation

4.5.1 Based on the grid system buildings were photo-documented with notes of names, postal address, and topography.

4.5.2 Photo-documentation of buildings was grouped with reference to the road frontage. Care was taken to document the interstitial spaces enabling photomontage of complete street fronts.

4.5.3 Photo-documentation of buildings also covered salient features of Art Deco Architecture as well as articulation of other significant styles.

Photo Documentation
Source RCACC 1999 / 2000

4.6 Survey

4.6.1 Survey cards recorded and attended to all aspects of ownership, building use, building age, building condition and building topography

4.6.2 Construction and façade details, architectural quality, fire precautions, main and subsidiary access, parking requirements, parking provisions and potentialities of use were noted for each of the five hundred and forty eight buildings.
Refer Sample Surveys No. 5 to 13 attached herewith.

(4)

MD/V/4576/

(3)

MD/V/4576/

Plot ? **Address** J TATA RD , MUMBAI-20 **Floors** 7

Date 21/8/99 **Name of Premises / Business** RAM MAHAL

Interview **Signature**

Date of Photograph 21/8/99

Grid Reference FACE V, 110-112

Drg. 5. Sample Survey Sheet Set 1
Source RCACC 2000

RCA CC

Owner/~~Trust/Society~~ ARVIND KOTECHA.

Tenant Owner			No. of Residents Male	Female
TEN:	Ground	BANK OF BARODA, RAGNA RESTAURANT		
"	First	3 FLATS	2	2
"	Second	3 FLATS	3	0
"	Third	3 FLATS	5	7
"	Fourth	3 FLATS	4	6
"	Fifth	3 FLATS	2	3
"	Sixth	3 FLATS	3	2
	Terrace			

Uses		
	Ground	COMMERCIAL
	First	RESIDENTIAL
	Second	RESIDENTIAL
	Third	RESIDENTIAL
	Fourth	RESIDENTIAL
	Fifth	RESIDENTIAL
	Sixth	RESIDENTIAL
	Terrace	

Potentialities of Use —

Construction a) RCC FRAMED STRUCTURE WITH BK INFILL, CAST IN SITU MOSAIC FLOORING ON THE STAIRCASE, TIMBER FRAMED WINDOWS.
b) ADDITION IN BRICK WORK WITH RCC SLAB & ALUMINIUM WINDOWS.
c) RECENT CLADDING IN STONE BY BANK & RESTAURANT

Facade ORIGINAL FACADE IN A STATE OF SEVERE DECAY CRACKS EVIDENT, FICUS GROWTH AT BALCONY / PIPE JUNCTIONS
CORNER STAIRCASE BLOCK WITH VERTICAL OPENING SPANNING 4 STOREYS

Age a) 1945 b) 1970's c) PROBABLY 1990's

Architectural Quality

Townscape INTROVERT CORNER BLDG.

Intrinsic FINE CURVED STAIRCASE WITH CENTRAL LIFT BLOCK. LIFT ACCESS AT MID LANDING LVL

Notes and Diagrams: ADDITIONAL 6TH FLR ALLEGEDLY ILLEGAL ENCROACHMENT / PRIVATE ENCLOSURE BY RAGNA RESTAURANT HINDERS FREE ACCESS AROUND BLDG.

AD / FUN / CON / STY / DET / UD / SIG

Drg. 6. Sample Survey Sheet Set 1
Source RCACC 2000

Condition	Structure (2x) Expense	Surface (X) Expense
Ground	✓	✓
First	✓	✓
Second		✓
Third	✓	✓
Fourth		✓
Fifth	✓	✓
Sixth		✓
Terrace		
Compound/ Fence / Gate		

Good
Good to Fair
Fair
✓ Poor
Extremely Poor

Fire Precaution
2 FIRE ESCAPE / SERVANTS STAIRCASE
FIRE ESCAPE STAIRCASE NOT USED BECAUSE
a) DUE TO DILAPIDATED STRUCTURE
b) DUMPED WITH GARBAGE / STORAGE

Natural Lighting

Existing GOOD - THROUGH BALCONY AS WELL AS INTERNAL/ EXTERNAL PENETRATION

Potential STAIRCASE BLOCK WITH CONTINUOUS VERTICAL WINDOW OPENING.

Access

Main Access JAMSHED TATA ROAD.

Subsidiary Access TWO MAIN, ONE OF WHICH IS NOT IN USE AS IT IS ENCHROACHED BY ROAD SIDE STALLS FROM SHANKAR JAIKISHAN CHOWK.

Potential Access a) USED BY BANK b) PRIVATE USE OF RASNA RESTAURANT

Vehicles SAME AS ABOVE.

Parking

Requirement 20 (L.M.V - LIGHT MOTOR VEHICLE) & TWO-WHEELERS

Provision 15 PARKED IN COMPOUND, 5 ON THE ADJOINING ROAD.

Curtilege OPEN PARKING FOR ABOUT 10 VEHICLES, 9 GARAGES OUT OF WHICH 4 ARE SOLD TO RASNA RESTAURANT.

Unbuilt Space PART OF SIDE OPEN SPACE ENCLOSED BY RASNA RESTAURANT, COMPOUND WALL DILAPIDATED WITH CORRODING GRILLWORK

Outbuildings
1) GARAGE 1)
2) GARBAGE DUMP.

Drg. 7. Sample Survey Sheet Set 1
Source RCACC 2000

RCACC

(2)

MD/14/4457/12

Plot 76 **Address** V. NARIMAN RD. MUMBAI-20	**Floors** 5
Date 22/8/99 **Name of Premises / Business** INDIAN MERCHANT CHAMBERS	
Interview	**Signature**
Date of Photograph 22/8/99	
Grid Reference FACE 14,/ K-L	

Drg. 8. Sample Survey Sheet Set 2
Source RCACC 2000

RCACC

Owner/Trust/Society INDIAN MERCHANT CHAMBERS

Tenant Owner			No. of Residents Male	Female
TEN	Ground	SUPERMARKET / BHARAT CAFE / DOMINOS / STADIUM RESTAURANT / SHOPS		
OWN	First	W I A A OFFICE		
"	Second	I M C OFFICE		
"	Third	I M C OFFICE + PRIVATE OWNER		
"	Fourth	I M C OFFICE + HALL		
"	Fifth	BOARD RM + CONFERENCE RM.		
	Sixth			
	Terrace			

Uses		
	Ground	COMMERCIAL
	First	COMMERCIAL
	Second	COMMERCIAL
	Third	COMMERCIAL
	Fourth	COMMERCIAL
	Fifth	COMMERCIAL
	Sixth	
	Terrace	

Potentialities of Use —

Construction 1) RCC FRAMED STRUCTURE WITH BK INFILL, MARBLE F FLOORING AND CLADDING UPTO THE CILL LVL IN THE PASSAGE RCC CURVED STAIRCASE WITH WOODEN HANDRAIL & WOODEN TREAD RISERS, TIMBER FRAMED DOORS, WINDOWS

2) RECENT WINDOW ADDITION ARE ALUMINIUM FRAMED, ADDITION IN BK WORK.

Facade

Age ORIGINAL FACADE ~~HAS~~ BEEN MAINTAINED TO A GREAT EXTEND. RECENTLY RENOVATED - GROOVES RETAINED, SOME TW WINDOWS REPLACED BY ALUMINIUM WINDOWS / ENCLOSED BALCONIES & A/C UNITS JUTTING

a) 1939 (G+3) b) 1955 - VALCHAND HALL (4th FLOOR)

Architectural Quality

Townscape SIGNIFICANT ART DECO BUILDING EMPHASISING THE CORNER

Intrinsic CURVED STAIRCASE CLADDED WITH MARBLE, HAVING WOODEN TREADS & RISERS & CENTRALLY PLACED LIFT.

Notes and Diagrams :

AD/ FUN/ CON/ STY/ DET/ LOC/ LAN/ SIGNIFICA

Drg. 9. Sample Survey Sheet Set 2
Source RCACC 2000

Condition	Structure (2x) Expense	Surface (X) Expense
Ground		✓
First		
Second		
Third		✓
Fourth		
Fifth		✓
Sixth		
Terrace		
Compound/ Fence / Gate		

Good
✓ Good to Fair
Fair
Poor
Extremely Poor

Fire Precaution

FIRE ESCAPE STAIRCASE IN CHOWK NOTIONAL AS RESULT OF NON ACCESSIBILITY.

Natural Lighting

Existing GOOD. THROUGH INTERNAL CHOWK & EXT WINDOWS BUT MOSTLY ARTIFICIAL LIGHTING IS USED FOR THE INDOOR.

Potential CHOWK COULD BE USED AS EXCELLENT LIGHT & VENTILATION SHAFT.

Access

Main Access FROM CORNER (AT JUNC^{N} OF VEER NARIMAN RD & E-ROAD)

Subsidiary Access TWO SUBSIDIARY ACCESS ROAD FROM 1) VEER NARIMAN ROAD

Potential Access 2) NETAJI SUBASHCHANDRA BOSE ROAD.

Vehicles FROM THE TWO ADJOINING ROADS NAMED ABOVE

Parking

Requirement 25/30 CARS

Provision 7/10 CARS

Curtilege GARAGE THAT IS PROVIDED IS USED AS STATIONARY SHOP.

Unbuilt Space GARAGE USED AS STATIONARY SHOP & GODOWN.

Outbuildings THE COMPOUND WALL AT PLACES HAS BEEN BROKEN DOWN BY HOTEL OWNER FOR HIS BUSINESS PURPOSE.

Drg. 10. Sample Survey Sheet Set 2
Source RCACC 2000

RCA CC

(20A)

MD/B/4115/1

Plot 141 **Address** 141, S.C. BOSE ROAD, MUMBAI - 20	**Floors** 7
Date 4/9/99 **Name of Premises / Business** HOTEL DELAMAR	
Interview	**Signature**
Date of Photograph 1/9/99	
Grid Reference FACE B 14-15	

Drg. 11. Sample Survey Sheet Set 3
Source RCACC 2000

Owner/Trust/Society OWNED BY THE LANDLORD.

Tenant Owner			No. of Residents Male	Female
TEN:	Ground	IRANIAR / BASKIN ROBIN / SHOP		
TEN:	First	HOTEL DECAMAR		
〃	Second	HOTEL DECAMAR		
〃	Third	DOCTORS / NATUROPATHY / CHOPRA & SON		
〃	Fourth	RESIDENTIAL FLATS		
〃	Fifth	RESIDENTIAL FLATS		
OWNER	Sixth	RESIDENTIAL FLATS		
	Terrace			

Uses		
	Ground	COMMERCIAL
	First	COMMERCIAL
	Second	COMMERCIAL
	Third	COMMERCIAL + RESIDENTIAL
	Fourth	RESIDENTIAL
	Fifth	RESIDENTIAL
	Sixth	RESIDENTIAL.
	Terrace	

Potentialities of Use LOCATIONALLY SIGNIFICANT FOR COMMERCIAL ENTERPRISE.

Construction 1) RCC FRAMED STRUCTURE WITH BRICK INFILL, INSITU MOSAIC TILES IN THE PASSAGE AND ON STAIRCASE. RCC ELLIPTICAL STAIRCASE WITH WOODEN HAND RAIL & CENTRAL WELL. TIMBER FRAMED DOORS & WINDOWS.
2) RECENT WINDOW ADDITION ARE. ALUMINIUM FRAMED.

Facade FACADE RECENTLY REPLASTERED + GROOVES LOST, TW. FRAME WINDOWS REPLACED BY ALUMINUM FRAMED ONES. CORNER ELLIPTICAL STAIRCASE BLOCK EMPHASISED BY CURVED BALCONIES. CHAJJAS SUPPORTED BY METAL BRACKETS

Age a) 1939 i.e 61 yrs old.

Architectural Quality

Townscape SIGNIFICANT ART DECO CORNER BLOG.

Intrinsic FINE CURVED ELLIPTICAL STAIRCASE WITH CENTRAL WELL & WOODEN HAND RAIL STAIRCASE LOBBY IS HIGHLIGHTED BY LARGE COLUMN LIKE WINDOWED GARRING.

Notes and Diagrams :

AD / FUN / CON / STY / DET / LOC / LAN / SIGNIFICANT

Drg. 12 Sample Survey Sheet Set 3
Source RCACC 2000

Condition	Structure (2x) Expense	Surface (X) Expense
Ground	✓	✓
First	✓	✓
Second	✓	✓
Third		✓
Fourth	✓	✓
Fifth		✓
Sixth		
Terrace		
Compound/ Fence / Gate		

Good
Good to Fair
Fair
✓Poor
Extremely Poor

Fire Precaution NO FIRE ESCAPE STAIRCASE OR PRECAUTIONARY SYSTEM SEEN.

Natural Lighting

Existing ADEQUATE — THE INTERNAL SPACES DERIVE LIGHT/ VENTILATION FROM THE EXTERNAL WINDOWS

Potential

Access THE STAIRCASE BLOCK IS WELL LIT BY THE LIGHT DERIVED FROM THE MID LANDING WINDOWS & THE WINDOWS AT THE TOP OF STAIRCASE WELL.

Main Access FROM CORNER (AT JUNCTION OF N.S. BOSE MARG & V. NARIMAN ROAD)

Subsidiary Access TWO SUBSIDIARY ACCESS
1) VEER NARIMAN ROAD

Potential Access 2) NETAJI SUBASH CHANDRA BOSE MARG

Vehicles FROM THE TWO ADJOINING ROAD NAMED ABOVE.

Parking

Requirement 7-10 CARS

Provision 7 CARS
3-GARAGES ARE PROVIDED BUT ARE NOT USED FOR PARKING

Curtilege

Unbuilt Space IRAN AIR OFFICE HAS ENCROACHED THE FRONT SETBACK BY MAKING A GARDEN, WHILE THE SHOPS HAVE PAVED THEIR FRONT OPEN SPACE & PRIVATISED IT.

Outbuildings GARAGES PROVIDED NECESSARY FOR CAR PARKING BUT INSTEAD USED AS STORING GODOWN.

Drg. 13. Sample Survey Sheet Set 3
Source: RCACC 2000

5

STUDY AND ANALYSIS OF PRESENT BUILT ENVIRONMENT

5 Study and Analysis of Present Built Environment

5.1 Marine Drive precinct, the area under study which lies to the south west of the island city, is bounded by Madam Kama marg and Sitaram Patkar marg, to the south and north respectively. On the West is the Arabian Sea and the east is bounded by the Oval Maidan, Cross Maidan and the Western railway.

5.2 Marine Drive precinct is positioned next to the Central Business District (Nariman Point-Fort Area) with varying land and building use patterns.

5.3 Delineation of the Study Area:

5.3.1 Analysis of the areas to the effects of physical perceptible objects, an aesthetic survey, highlights the contents of city image and its constituent elements.

5.3.2 The physical forms have been classified into five types of elements; paths, edges, districts, nodes and landmarks (Lynch 1960)

Eros Theater
Source RCACC 1999 / 2000

5.3.3 On identifying these elements on the existing area it becomes distinct that the area is physical bounded by the Arabian Sea on the east and gets divided north south by the Western Railway. (Refer Drg. 14 for Aesthetic Survey)

5.3.4 Netaji Bose marg constitutes a major artery for movement alongwith the Veer Nariman marg Madam Cama marg, Babulnath marg and Sitaram Patkar marg.

5.3.5 The Western railway functions as an important edge as well as a very important mass transport portal.

5.3.6 Landmarks like Eros and Metro theatre, Western Railway headquarter, Brabourne and Wankhede stadium, Mantralaya, Ambassador hotel, Balbhavan, Chowpatty, Wilson college, Babulnath temple imparts the area with its way finding landmarks.

Drg. 14. Aesthetic Survey
Source RCACC 1999/2000

5.3.7 The high activity junctions outside Chuchgate Station and on Chowpatty/ Netaji Bose Marg Junction form the major nodes with need for better vehicular and pedestrian orientation.

5.3.8 The architectural as well as observed functional pattern prompts the classification of the area into several major and minor districts.

5.39 The Art Deco Mid fifties pattern is distinctly different from the pre 1950's pattern of the Chowpatty and the Babulnath area.

5.3.10 The need for subdividing the precinct is further highlighted by lack of visual and functional connection of the Marine Drive to the New Marine Lines area (adjoining Cross Maidan)

5.4 Precinct Boundary

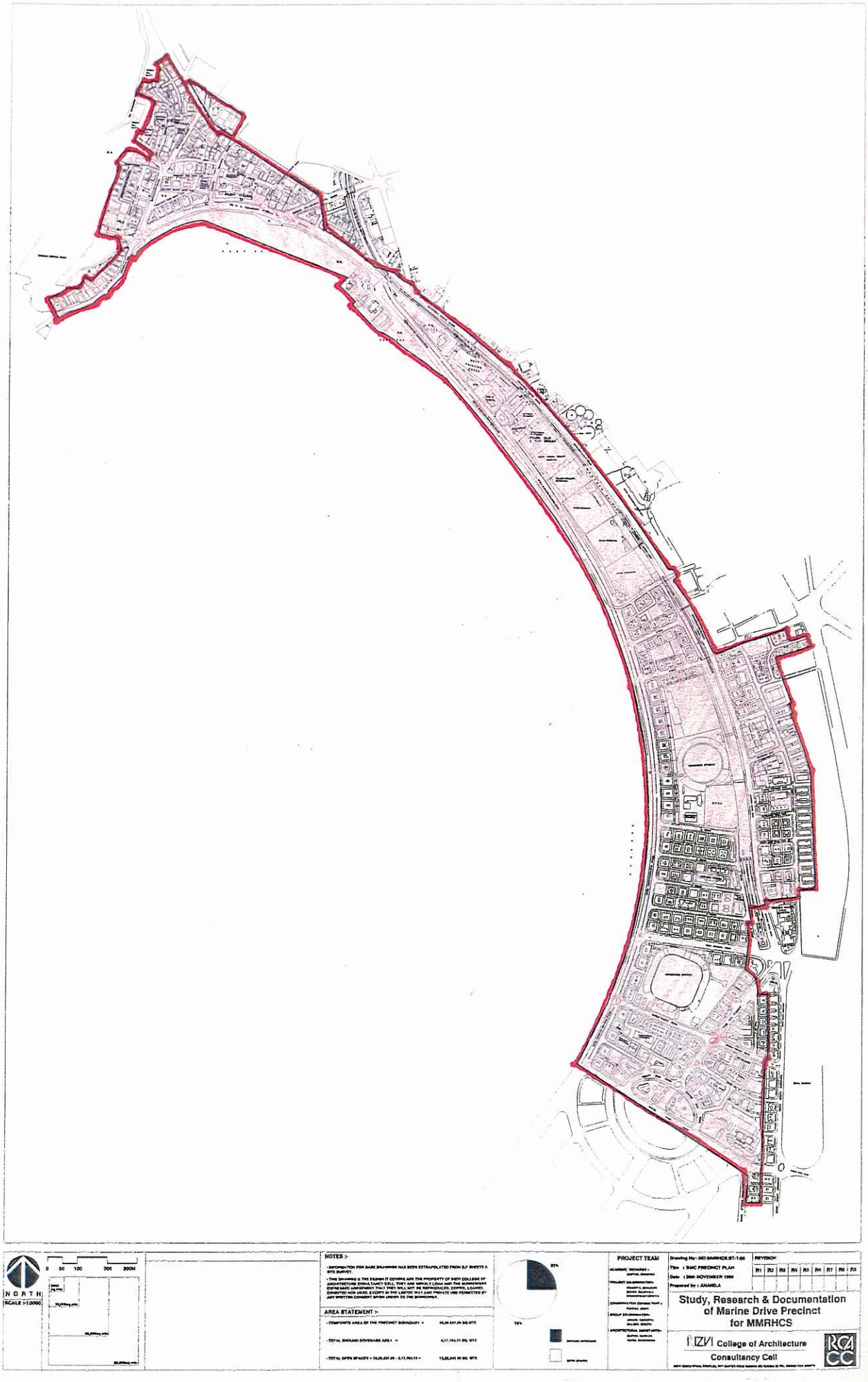
5.4.1 The Brihanmumbai Mahanagarpalika vide Development Control Regulation No. 67 has delineated a precinct (Refer Drg. 15).
Area for the precinct boundary demarcated by BMC = 1514969.54 SQ.MTS

5.4.2 The BMC delineated precinct does not include art deco buildings fronting oval, as well as the architectural link adjoining Jawahar Bal Bhavan garden towards chowpatty.

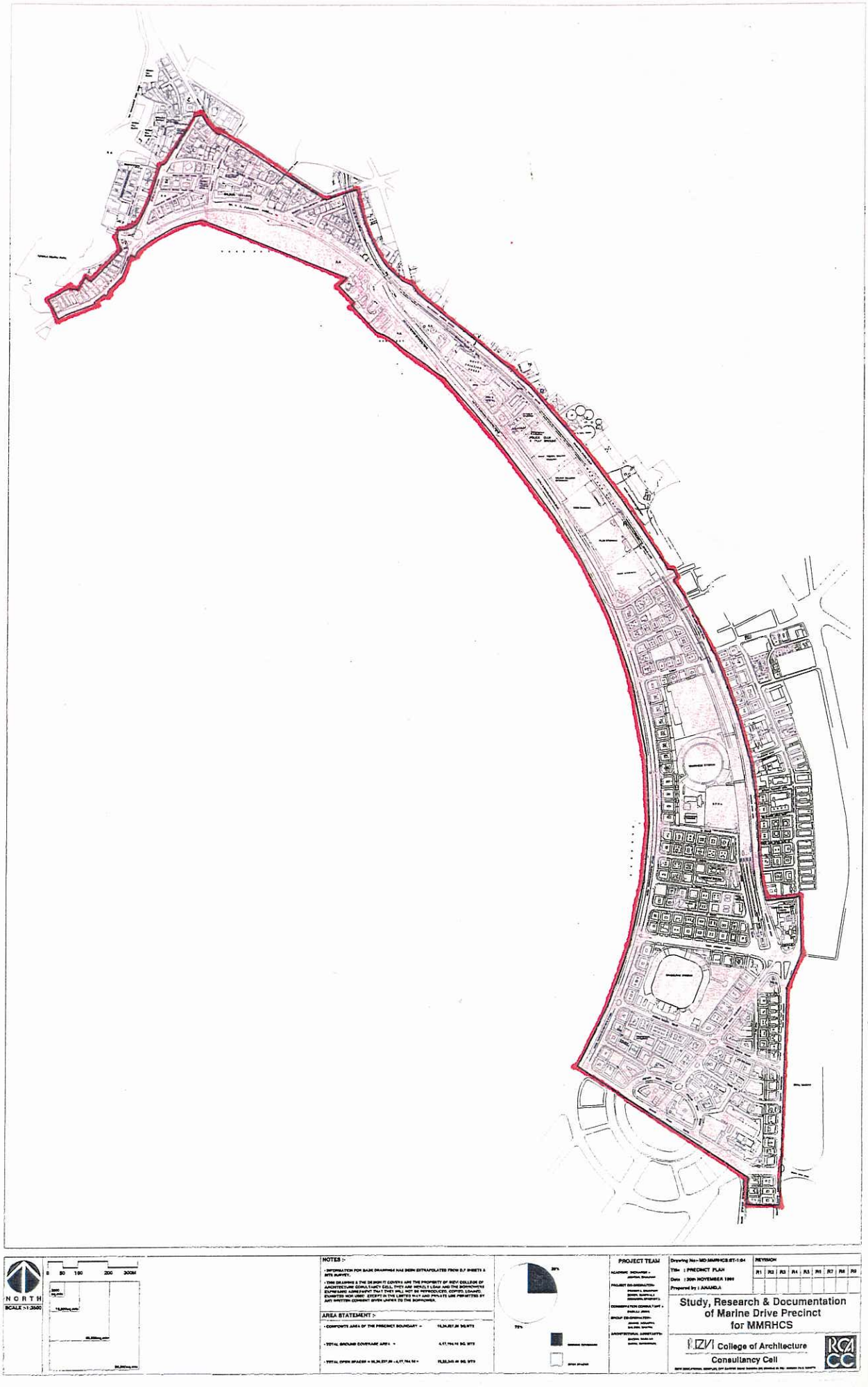
5.4.3 As the Western railways de-links the New Marine Lines area from the Marine Drive the need to list the area as a separate precinct arises (refer 5.3.10, Drg. 16)
Area for the precinct boundary demarcated by RCACC = 1374138.65 SQ.MTS

5.4.4 Composite precinct boundaries (refer Drg. 17) rectifies the above stated inadequacies. Combining BMC and RCACC demarcations.
Composite Area for the Precinct boundary 16,39,537.59 SQ.MTS
This precinct boundary has been considered for all aspects of further study.

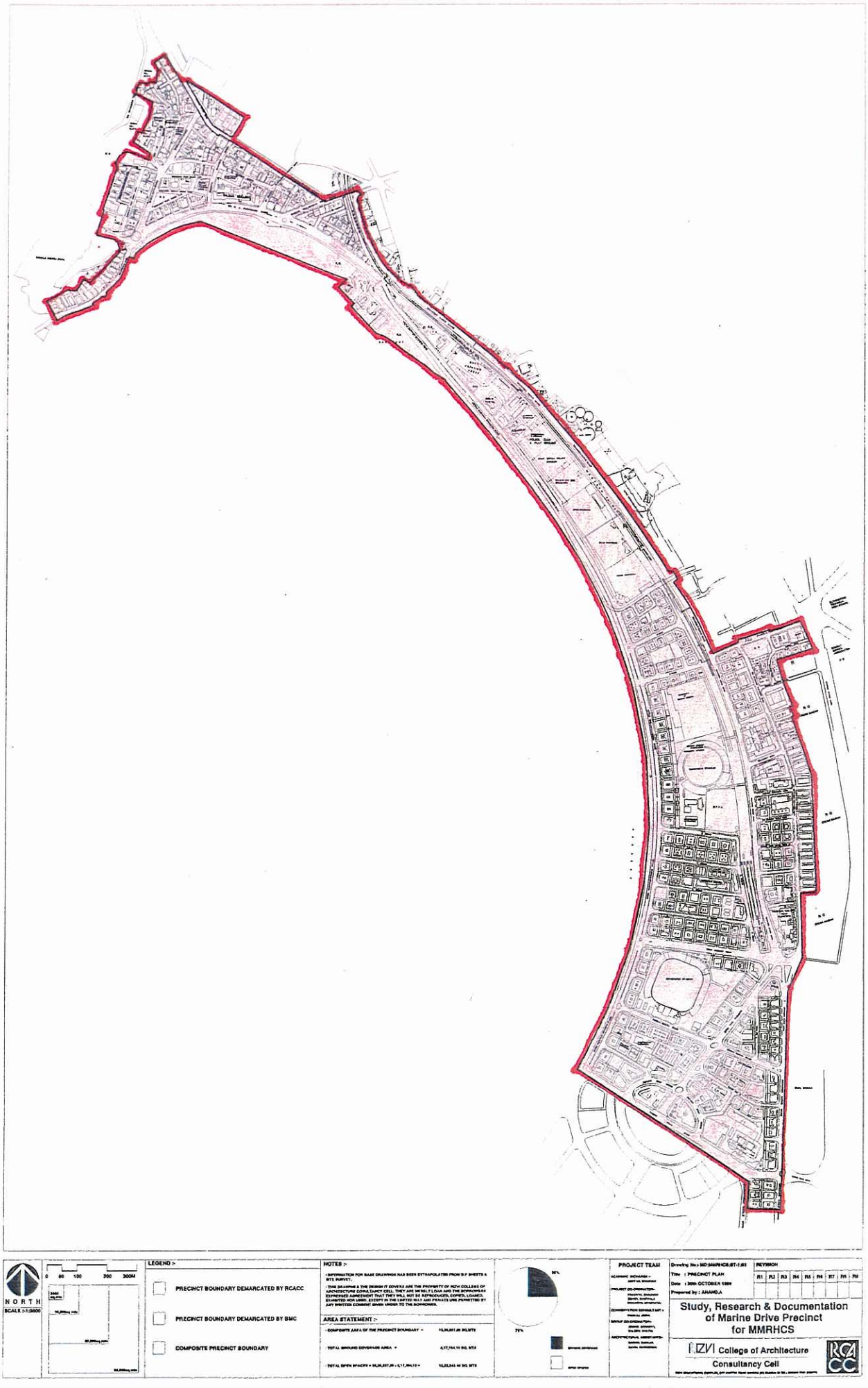
Ambassador Hotel
Source RCACC 1999 / 2000



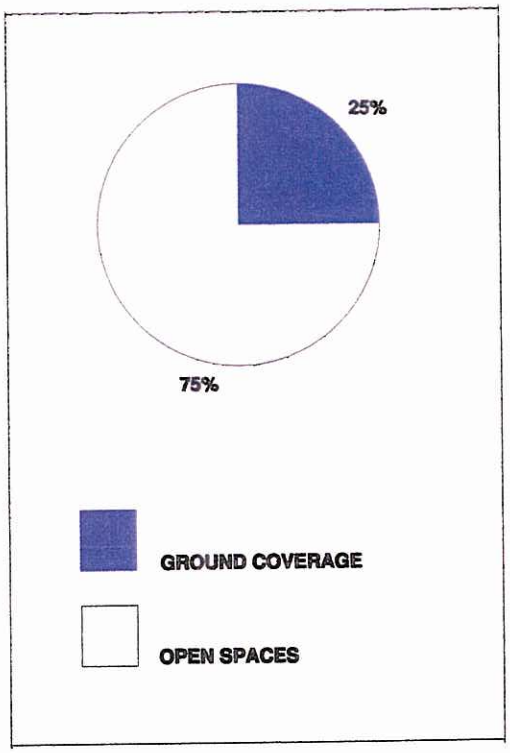
Drg. 15. Precinct boundary demarcated by BMC
Source RCACC 1999/2000



Drg. 16. Precinct boundary demarcated by RCACC
Source RCACC / 1999/2000



Drg. 17. Composite area Precinct boundary
Source RCACC 1999 / 2000



Pie Chart
Source RCACC 1999 / 2000

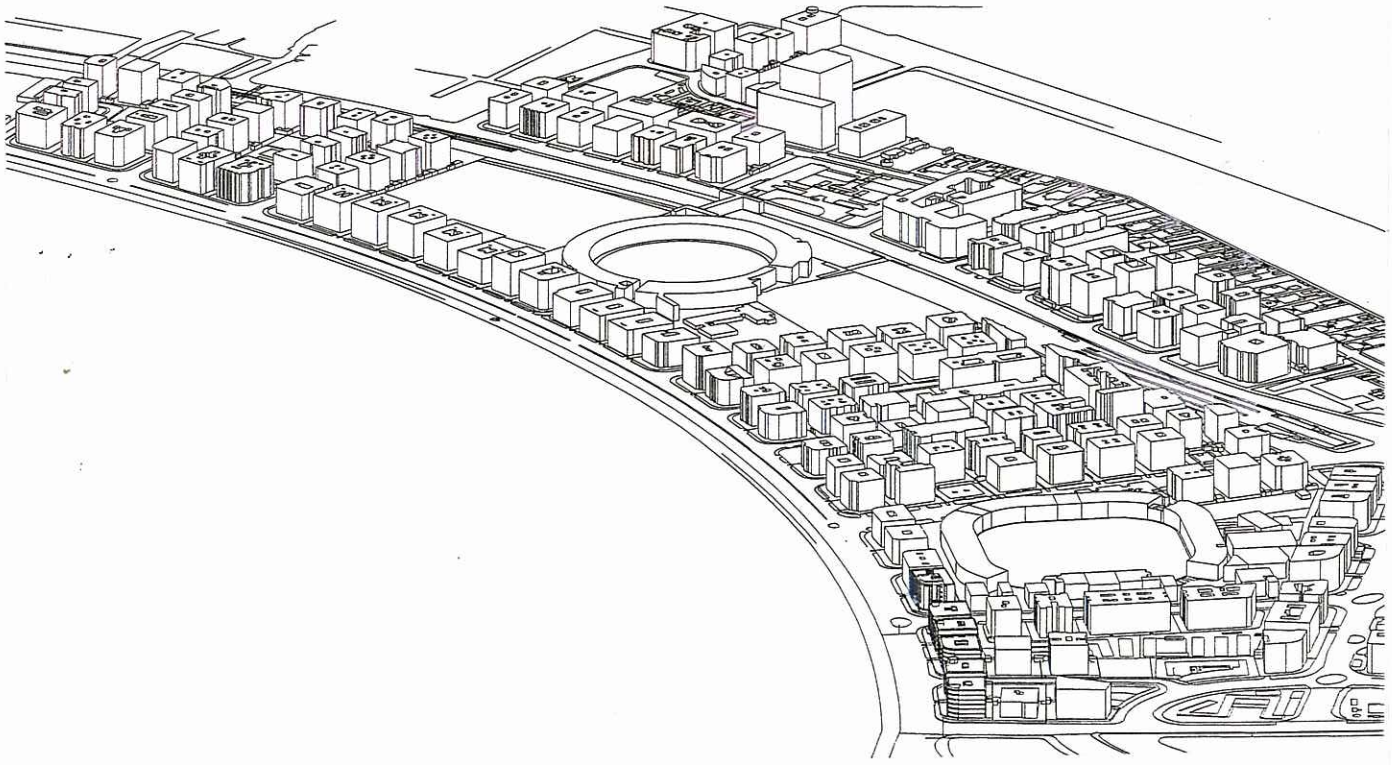
5.5 Open Space and Built Form Pattern

Drg. 18 and 19 represents the contrast between the built up area and the open space around including the roads. The pattern, which emerges, makes evident the nature of the precinct development. The districts in the south demonstrate a rigid iron grid pattern contrary to the densely packed organic pattern in the north.

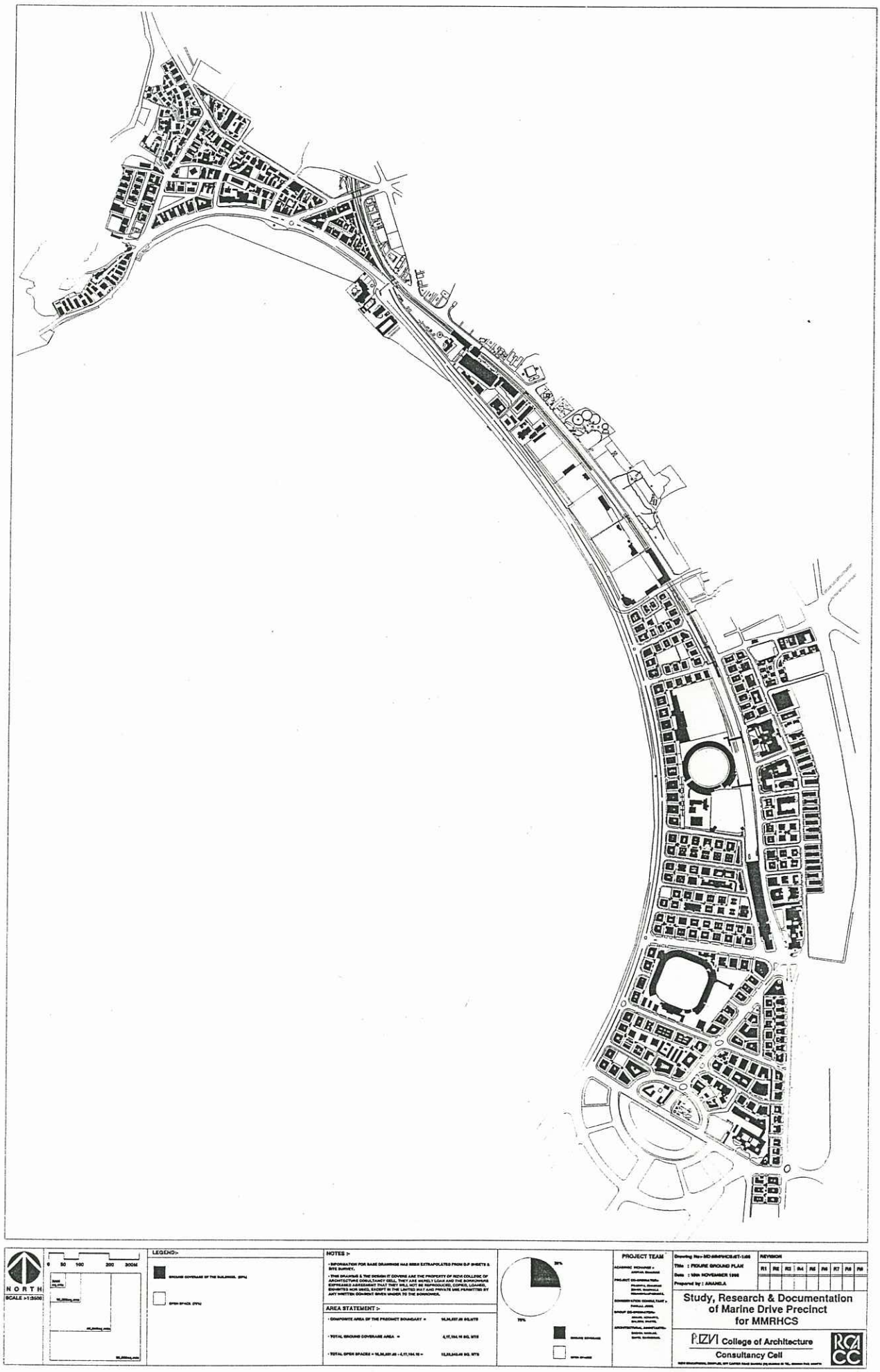
Contrast in built form is observed between organically planned and controlled planning mechanisms. The ratio of the ground coverage to the open space (inclusive of the streets) is nearly 1:3 showing lower plot coverage.

5.5.1 Study Area Data (Composite)

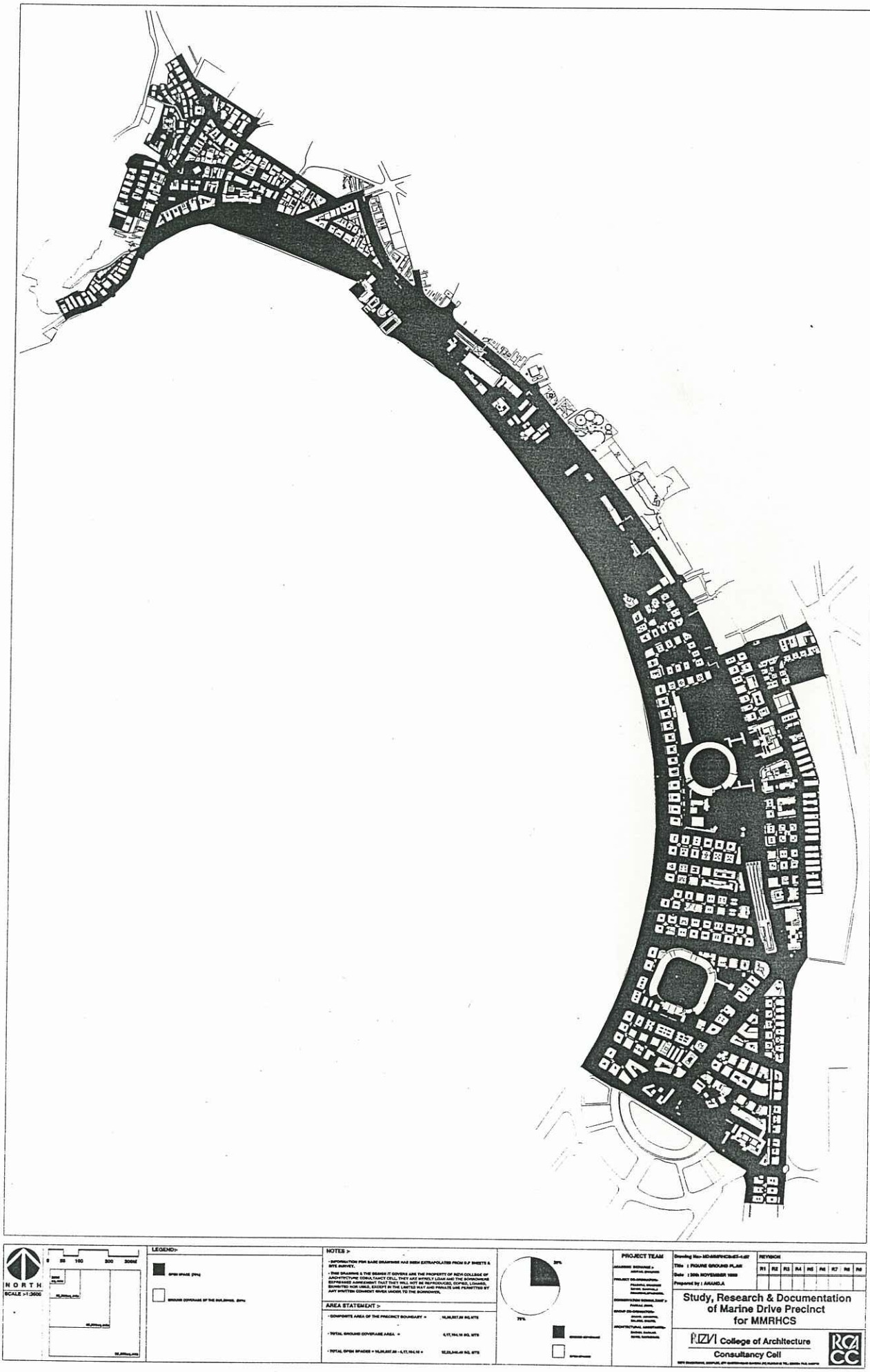
No. of Buildings	548
Total Built up Area	20,70,375.62 SQ.MTS
Open area	12,22,343.40 SQ.MTS
Plot/plinth coverage	04,17,194.19 SQ.MTS
Precinct area (total)	16,39,537.59 SQ.MTS
BUA/Precinct area = Global F.S.I.	1.2628



Marine Drive 3d View
Source RCACC 1999/2000



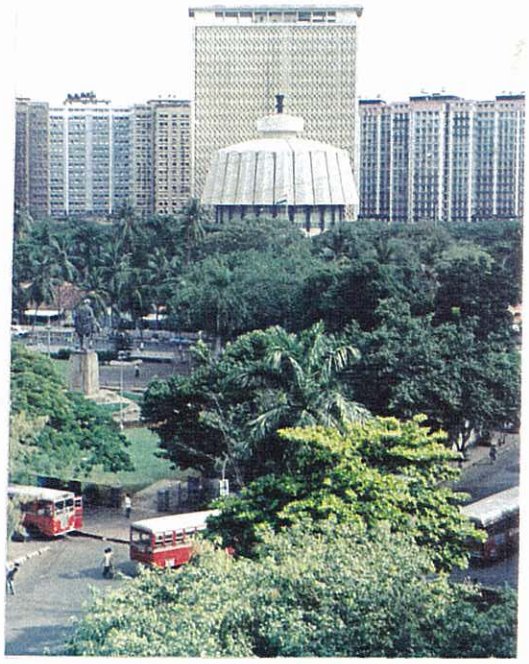
Drg. 18. Open Space and Built Form Pattern I
Source RCACC 1999 / 2000



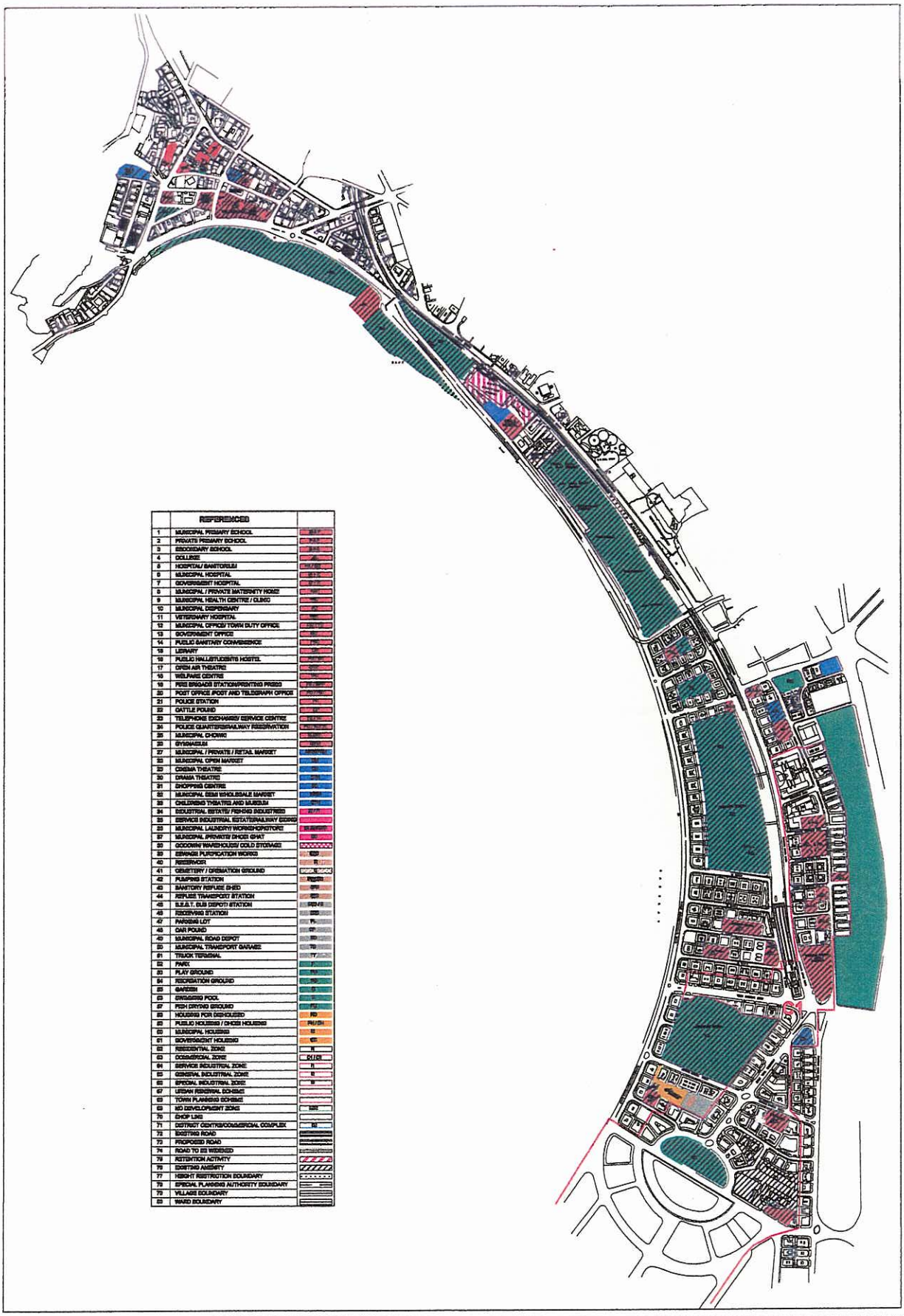
Drg. 19. Open Space and Built Form Pattern II
Source RCACC 1999 / 2000

5.6 Proposed Land Use Development Plan (refer Drg. 20)

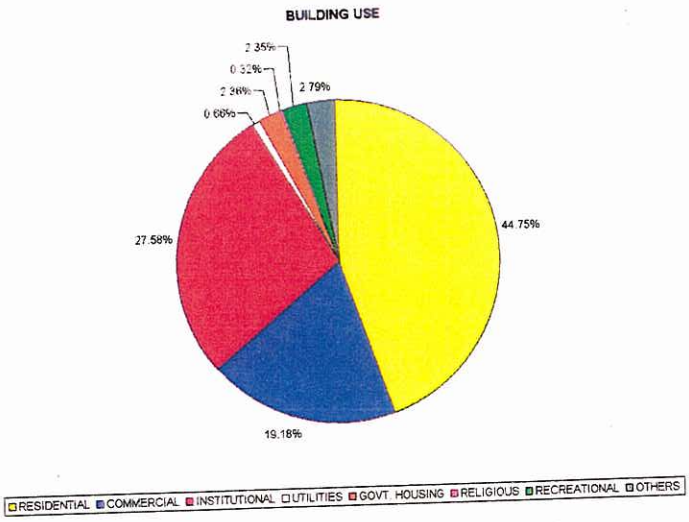
The proposed development plan supports the figure ground survey with substantial span of land reserved as recreation ground for beach, stadia's, gymkhanas, maidans, playgrounds and recreation centres.
Although the area is predominantly residential the southern section adjoining Nariman point CBD and Churchgate station is delineated as a commercial zone. Large concentration of institutional user is observed in area adjoining Churchgate station. The north extremity of Babulnath Mandir and Chowpatty has a mix of commercial, institutional and residential user.



Nariman Point CBD South of Marine Drive Precinct
Source RCA 2000



Drg. 20. Proposed Development Plan Land Use
Source Greater Mumbai Development Plan 1981-2001
1999 / 2000



5.7 Existing Building Use Plan (refer Drg. 21)

Drg. 21 presents the building use pattern of Marine Drive precinct that is predominantly residential.

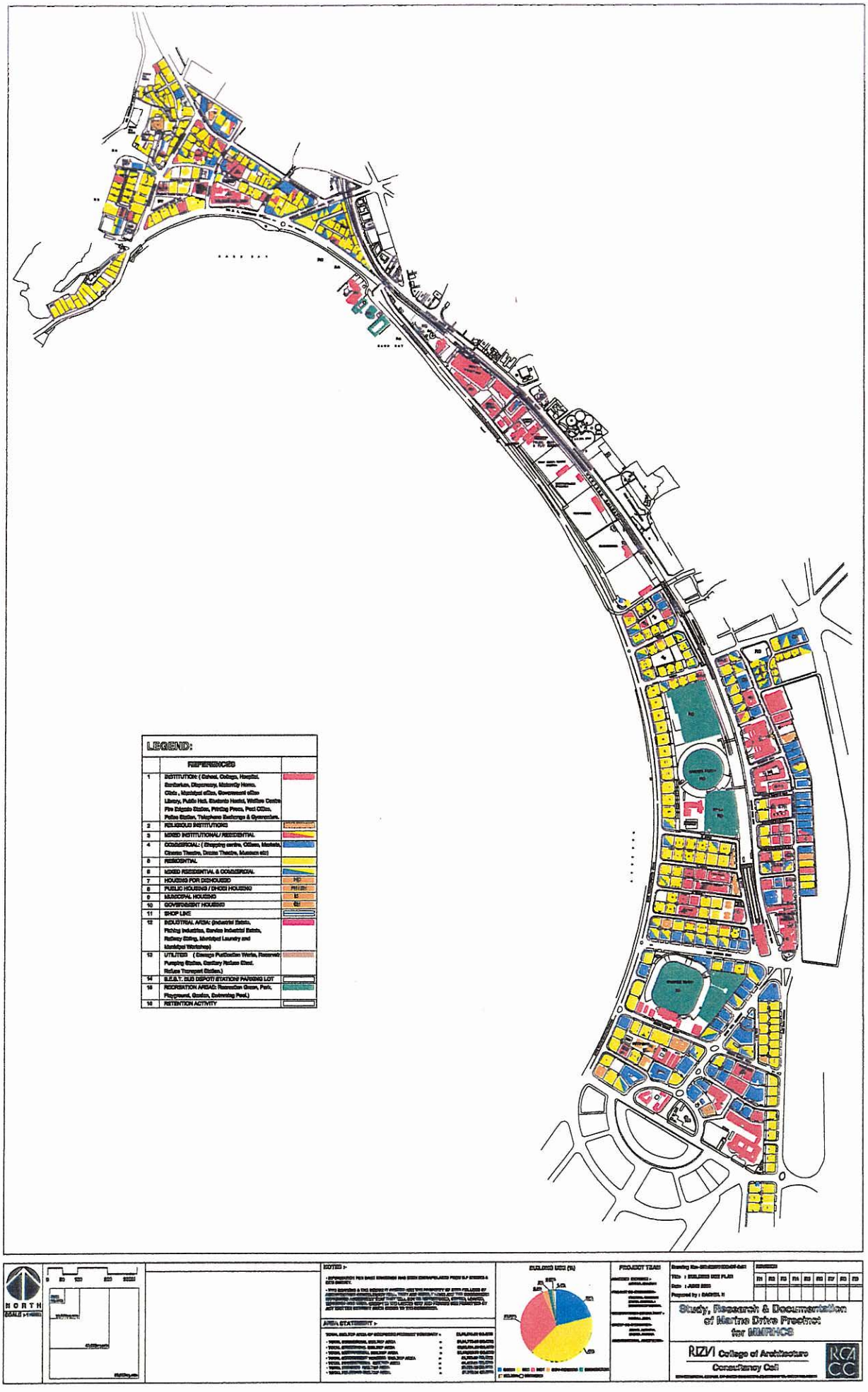
The areas in southern section adjoining Nariman point CBD and Churchgate station is a near equal mix of institutional and commercial buildings.

The central green spine comprising of gymkhanas and institutional buildings connect the grid iron pattern of the south to the organic pattern of the northern section of the precinct.

Building use distribution in area of study

Total Built up Area	20 70 375.62	
Residential user	9 26 513.81	(44.75%)
Commercial user	3 97 027.88	(19.18%)
Institutional user	5 71 051.00	(22.58%)
Recreational user	48 737.43	(2.79%)
Utilities	13744.39	(0.66%)
Religious	6655.22	(0.32%)
Public/Govt. Housing	48949.70	(2.63%)
Others	57696.41	(2.79%)

Mixed Use Development
Source RCA 2000

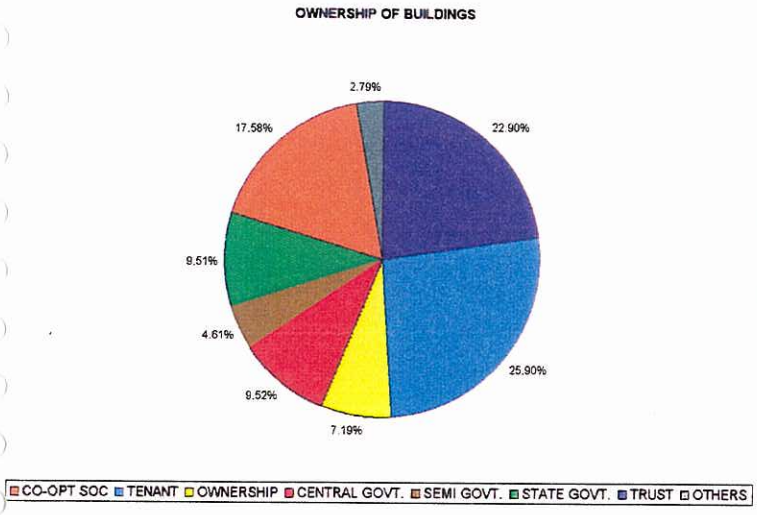


Drg. 21 Existing Building Use Plan
Source RCACC 1999/2000

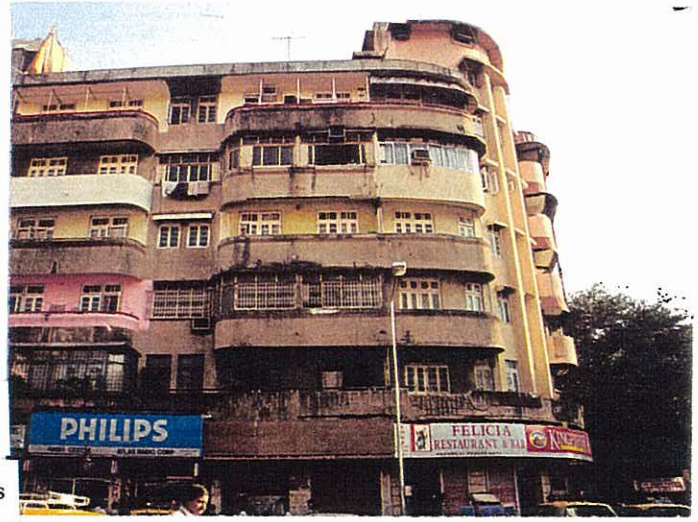
5.8 Building Ownership Survey
(Refer Drg. 22)

The ownership distribution in the precinct is as follows

Total Built up Area	20 70 375.62	
Co-op. Hsg. Society	474110.03	(22.90%)
Tenant	536257.00	(25.90%)
Ownership	148802.72	(22.58%)
Central Govt	197115.40	(9.52%)
Semi Govt	95464.10	(4.61%)
State Govt	196897.87	(9.51%)
Trust	364032.09	(17.58%)
Others	57696.41	(2.79%)

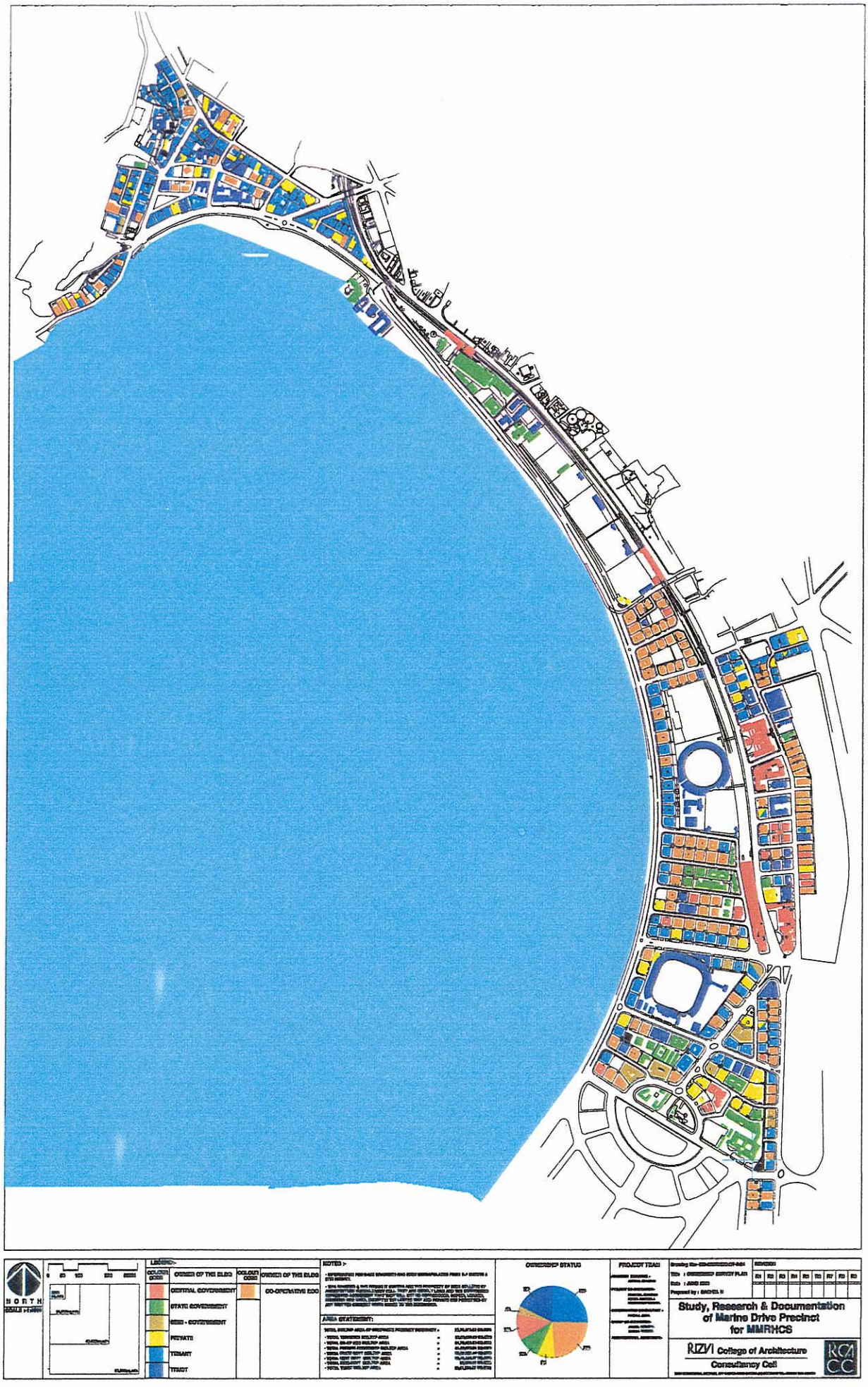


The locality encompassing Marine Drive precinct a predominant tenanted pattern followed by state and central government owned buildings. This content of tenanted properties prompts towards guidelines with requisite input conforming to The Maharashtra Housing and Area Development Act, 1976 and the Rent Control Act, 1942.

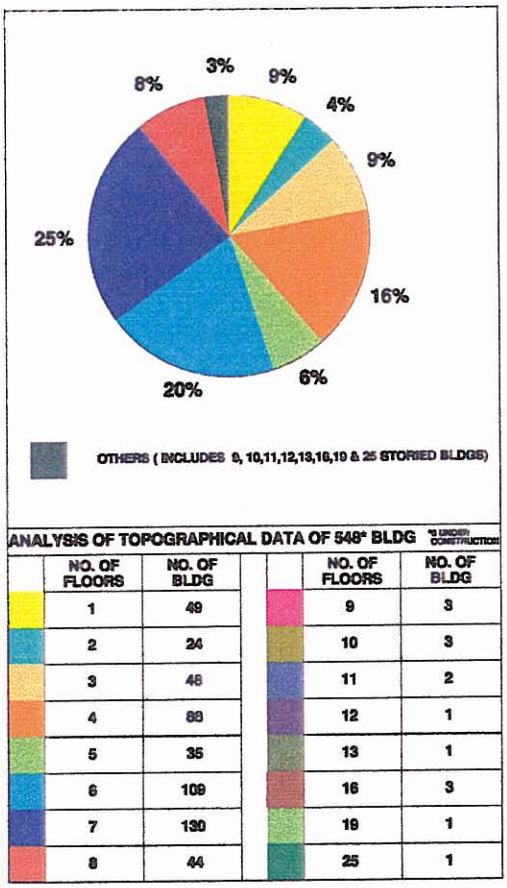


Above : LIC building, Church Gate
Source RCACC 1999 / 2000

Below : Tenanted Bldg, New Marine Lines
Source RCACC 1999 / 2000



Drg.22 Ownership of Buildings
Source RCACC 1999/2000



ANALYSIS OF TOPOGRAPHICAL DATA OF 548* BLDG *3 UNDER CONSTRUCTION

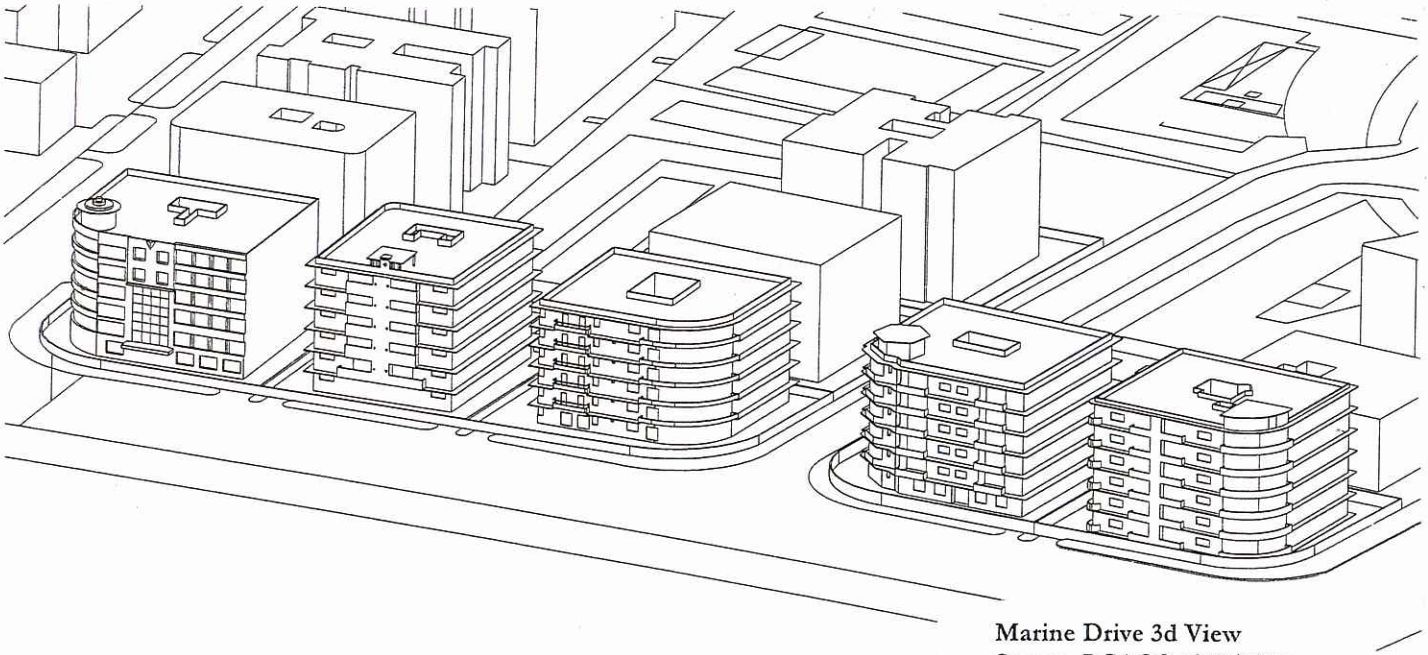
NO. OF FLOORS	NO. OF BLDG	NO. OF FLOORS	NO. OF BLDG
1	49	9	3
2	24	10	3
3	48	11	2
4	88	12	1
5	35	13	1
6	109	16	3
7	130	19	1
8	44	25	1

Pie Chart
Source RCACC 1999 / 2000

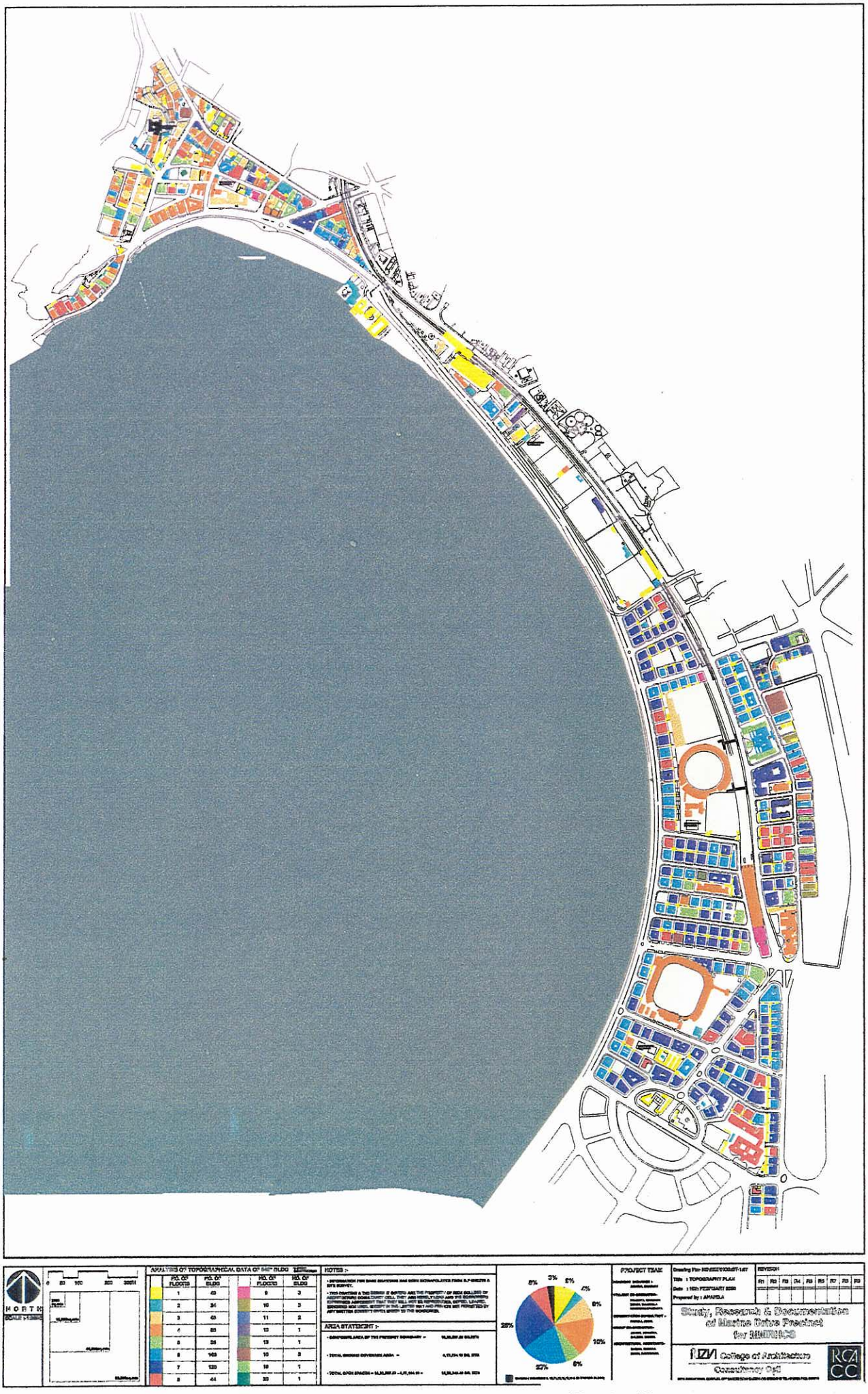
5.9 Topography of Buildings:

Drg. 23 show height of buildings in Marine Drive precinct making apparent the general topography of the area. The study area consists mostly of low to mid-rises from four to seven stories.

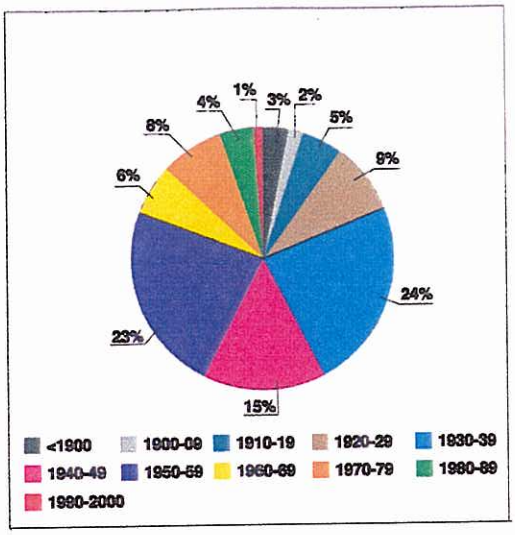
1 storey -	49 nos. i.e.	9.0%
2 storied -	24 nos. i.e.	4.0%
3 storied -	48 nos. i.e.	9.0%
4 storied -	88 nos. i.e.	16.0%
5 storied -	35 nos. i.e.	6.0%
6 storied -	109 nos. i.e.	20.0%
7 storied -	130 nos. i.e.	25.0%
8 storied -	44 nos. i.e.	8.0%
9 storied -	3 nos. i.e.	0.6%
10 storied -	3 nos. i.e.	0.6%
11 storied -	2 nos. i.e.	0.4%
12 storey -	1 no. i.e.	0.2%
13 storied -	1 no. i.e.	0.2%
16 storied -	3 nos. i.e.	0.6%
19 storied -	1 no. i.e.	0.2%
25 storied -	1 no. i.e.	0.2%



Marine Drive 3d View
Source RCACC 1999/2000



Drg 23 Topography of Buildings
Source RCACC 1999/2000



5.10 Age of Buildings
(refer Drg.24)

This survey is based on dates confirming to the plaques on buildings, discussion with the inhabitants and information in the earlier survey plans.

Based on the survey buildings along the Marine Drive, adjoining Oval Maidan and Maharshi Karve road, which form the bulk of Art Deco building stock had originated from the 30's to the 50's.

The core area around Babulnath Temple still retain structures from the turn of the last century. Recent development is seen sparsely scattered in the northern and southern parts of the precinct.

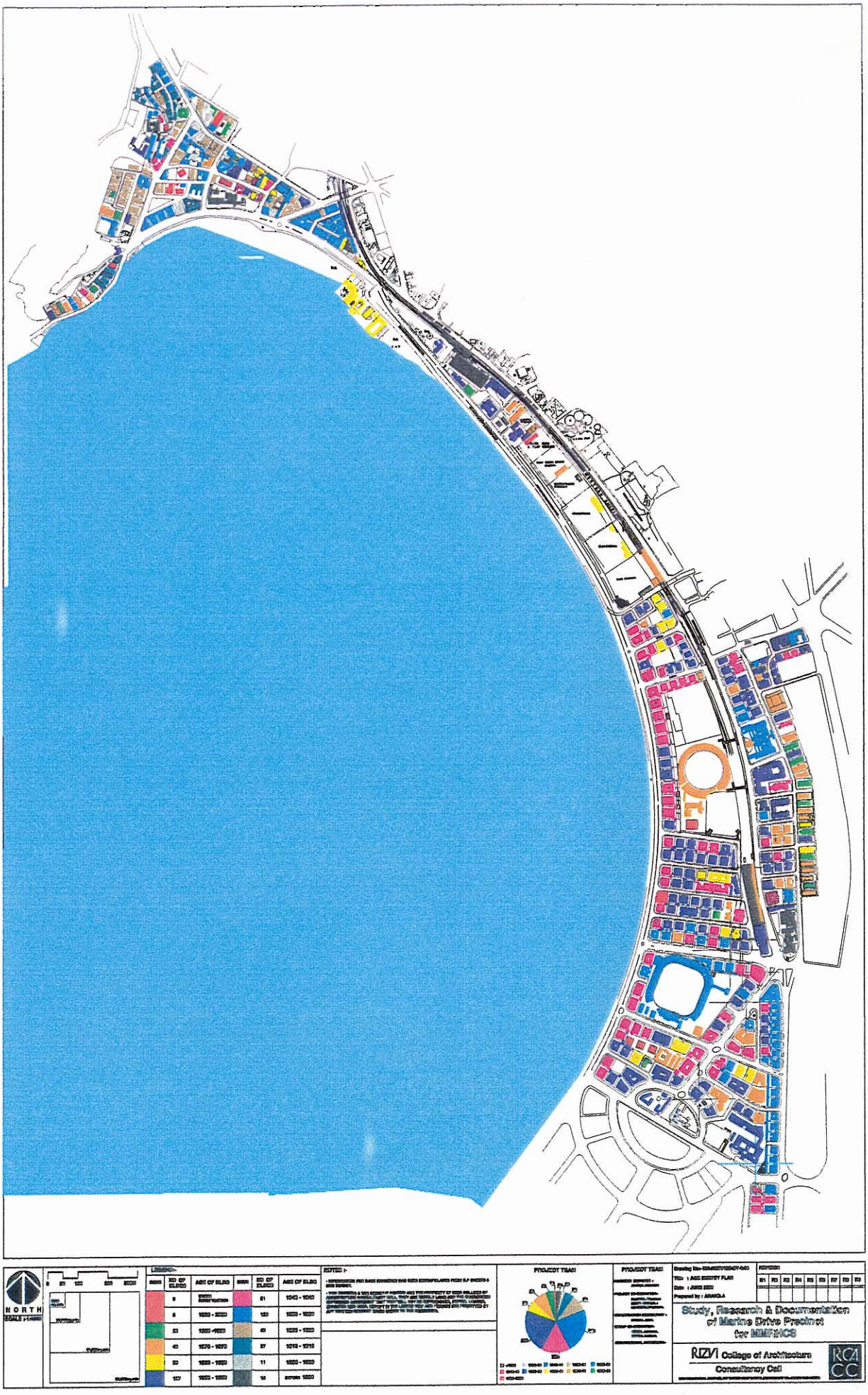
Soona Mahal, NSC Bose Marg
Source RCACC 1999 / 2000

Composition of the age of buildings in Marine Drive.

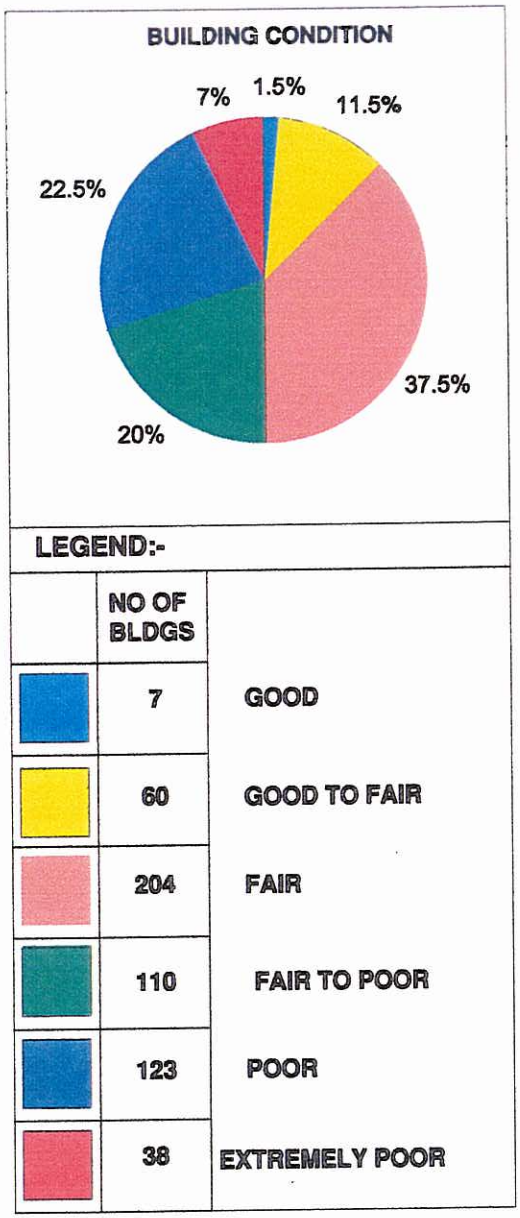
Before 1900	(>100yrs)	16	(3%)
1900 – 1909	(100 – 90yrs)	11	(2%)
1910 – 1919	(90 – 80yrs)	27	(5%)
1920 – 1929	(80 – 70yrs)	48	(9%)
1930 – 1939	(70 – 60yrs)	128	(24%)
1940 – 1949	(60 – 50yrs)	81	(15%)
1950 – 1959	(50 – 40yrs)	127	(23%)
1960 – 1969	(40 – 30yrs)	33	(6%)
1970 – 1979	(30 – 20yrs)	43	(8%)
1980 – 1989	(20 – 10yrs)	22	(4%)
1990 – 2000	(<10yrs)	6	(1%)

Babulnath Temple Entrance
Source RCACC 1999 / 2000

With a considerable pressure of transformation on the Marine Drive the structures have so far sustained their scale and expression.



Drg 24 Age of Buildings
Source RCACC 1999/2000



5.11 Condition of Buildings
(refer Drg.25)

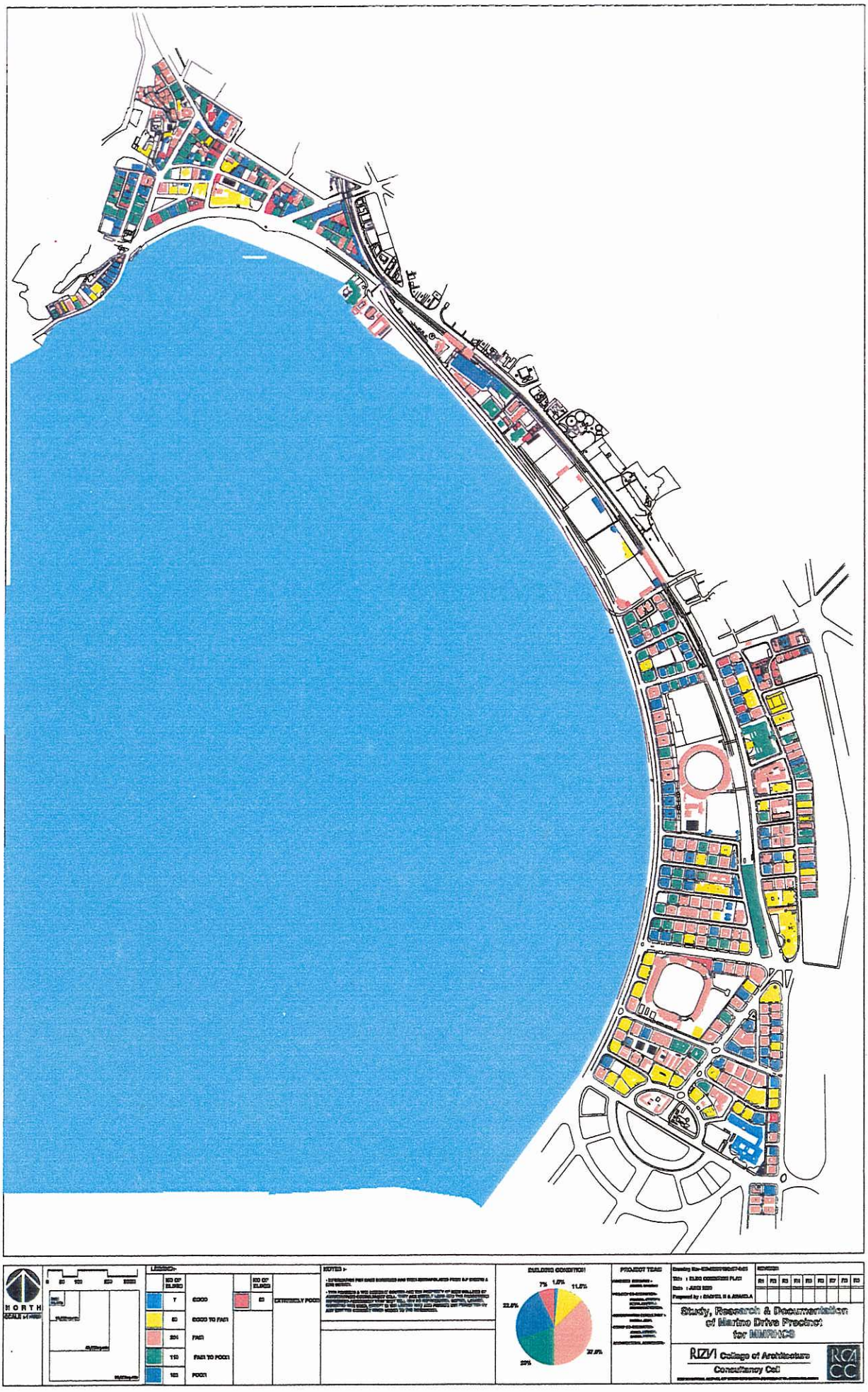
In this survey buildings have been classified on their structural stability and requirement of remedial measures.

Of the total of 548 structures in the study zone following classifications have been made.

38 buildings (7%) are in extremely poor condition urgently requiring complete rehabilitation or reconstruction.
123 buildings (22.5%) are in poor condition requiring urgent major repairs.
110 buildings (20.0%) are in fair to poor condition requiring major to moderate repairs
204 buildings (37.5%) are in fair condition requiring moderate repairs
60 buildings (11.5%) are in good to fair condition requiring minor repairs
7 buildings (1.5%) are in good condition requiring minimum repairs and maintenance

The sea facing Marine drive buildings due to extreme climatic exposure are in need of some immediate measures of repairs. The inner rows of buildings have fared well with exceptions of certain sea facing buildings that adhere to regular maintenance

Building Condition Fair to Poor
Source RCACC 1999 / 2000



Drg 25 Condition of Buildings
Source RCACC 1999/2000

Chhajas Replaced, Moonlight Building
Source www.geocities.com

Disharmonious Scale, Aderbad Building
Source RCACC 1999/2000

5.12 Physical Transformation Survey
(refer Drg. 26)

Physical transformation in buildings is mostly due to insensitive reconstruction's and facade alterations done by repairing agencies, private and government run. Incongruous and disharmonious scale of hoarding and advertisement boards is further adding to this adversity.

Decay of reinforced concrete fabric, especially thin slabs of chhajja and parapet walls has led to their removal. These are inappropriately replaced by thin chhajja of cement sheet supported on MS brackets. The articulation on wall surfaces, edges, trims and borders are removed during re plastering leading to further decay due to surface expansion and cracking of large surfaces.

Reserving of plot and non-implementation of reservation has led to encroachments of buildings as well as parked cars. High rise development within the precinct and on the fringes are totally incongruous to the scale and the character of the precincts built form. Disharmonious building activity in many cases has led to further erosion of the essential open and built fabric.

Physical transformation study shows that about
194 Buildings (35.8%) in the precinct have undergone minor to major façade alterations
24 Buildings (4.4%) have been completely redeveloped
70 Buildings (12.9%) have been structurally added upon and
55 Buildings (10.2%) have been redeveloped with completely disharmonious scale and incongruous development.

In addition to this fair number of buildings are demolished and are under re construction all over the precinct.

Drg 26 Physical Transformation of Buildings
Source RCACC 1999/2000

LEGEND :-		
	NO OF BLDGS	
	124	ART DECO BLDGS
	27	SIGNIFICANT ART DECO BLDGS
	38	SIGNIFICANT BLDGS
	1(34)	SIGNIFICANT AREA

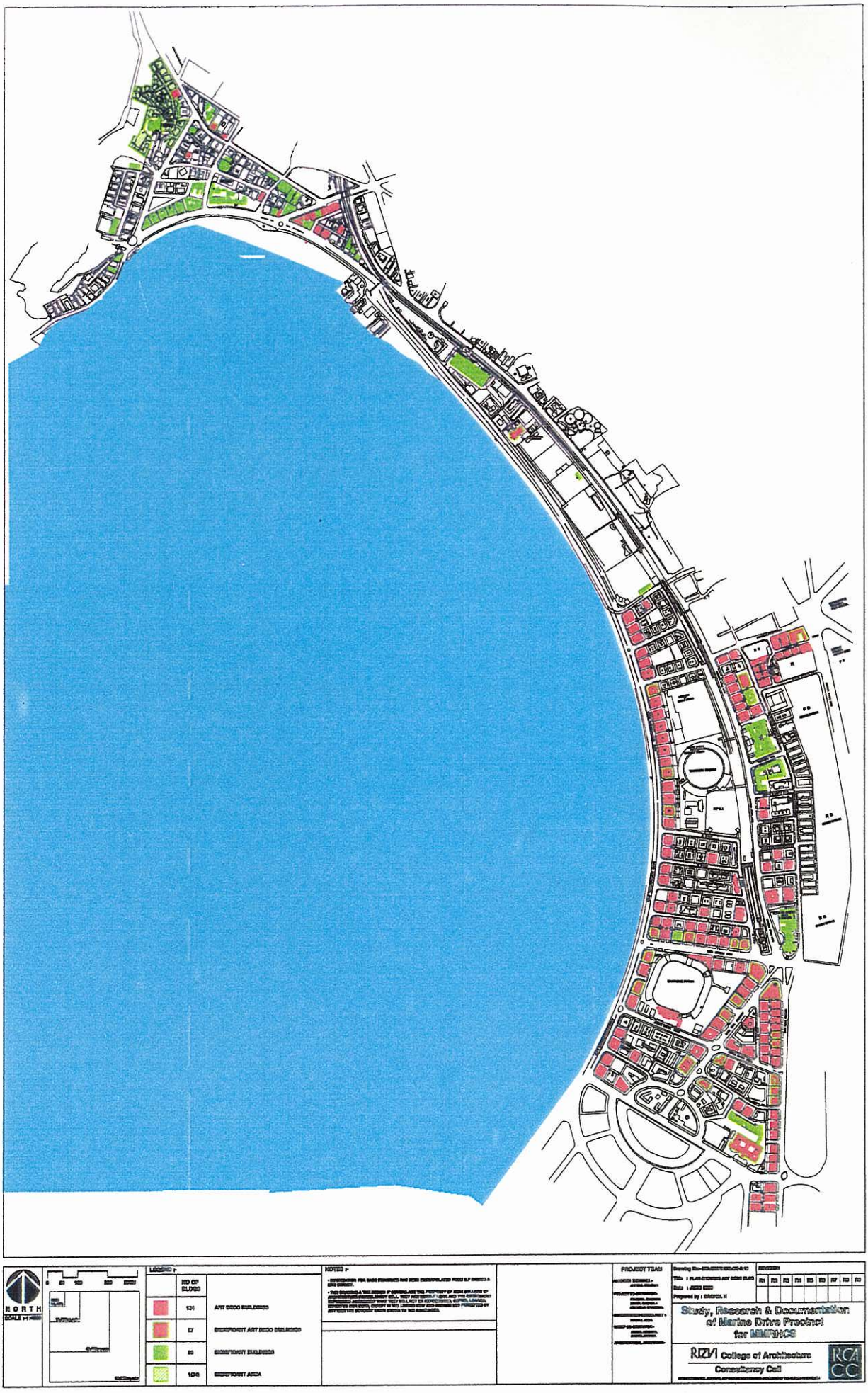
5.13 Art Deco Building Location
(refer. Drg. 27)

Location of Art Deco influenced buildings in the precinct is indicated in the following drawing. Most of which are concentrated towards the southern section of the precinct.
Out of the hundred and fifty odd Art deco influenced buildings about thirty-eight are extremely important, as they are the representative examples of Art Deco architecture of Mumbai City.
These example retain the character as close as it would be to the original. The other structures though significant have undergone degradation due to changes over the years.

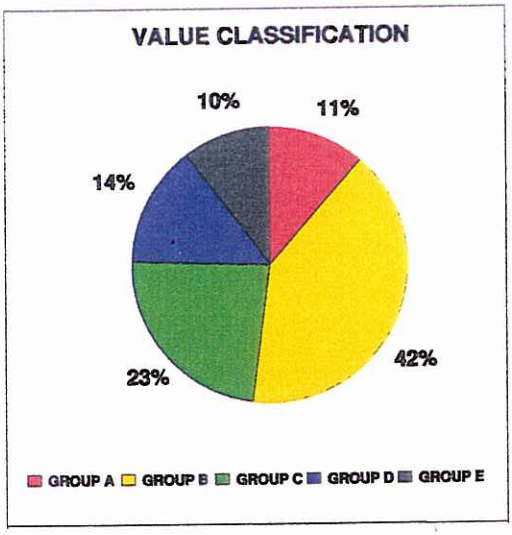
Significant buildings of earlier Victorian and Edwardian styles also add to the abundance of the architectural fabric.

Significant Art Deco Building, Liberty Cinema
Source RCACC 1999/2000

Art Deco Building, Shri Castle
Source RCACC 1999/2000)



Drg 27 Art Deco Building Location
Source RCACC 1999/2000



Parsee Agiary, Marine Lines
Source RCACC 1999/2000

ACC Building , Churchgate
Source RCACC 1999 / 2000

5.14 Value Classification Survey
(refer Drg. 28)

The value classification of representative examples/ buildings worthy of conservation was done on the basis of conservation value criteria consisting of the following value levels

Classification	Value
Arc	Archaeological
Fun	Architectural Function
Con	Arch. Construction /Detailing
Scu	Sculptural
Hist	Historical
Cul	Cultural
Rel	Religious
Occ	Occupational
Sty	Stylistic
Usr	User oriented
Per	Period
Ind	Individual
Soc	Social
Eco	Economic
Tec	Technological
Rec	Recreational
Pla	Planning
Wat	Waterfronts and promenades
Sca	Scale and topography
Gro	Grouping
Lan	Landmarks
Loc	Location
Eve	Event
UD	Urban Design Controls (Corner building, Colonnades)
DSDD	Disharmonious scale Disharmonious development

The buildings were then classified into groups with associated value in the following order

61 nos (11 %)	Group A	(>Fun, Con, Sty, Loc, Lan, UD, Sca)
222 nos (42 %)	Group B	(>Fun, Con, Sty, Sca,)
127 nos (23 %)	Group C	(>Fun, Con, Sca)
77 nos (14 %)	Group D	(>Fun, Sca)
55 nos (10 %)	Group E	(DSDD)

Drg 28 Value Classification of Buildings
Source RCACC 1999/2000

Above : Marine Drive Traffic
Source RCACC 1999 / 2000

Middle : Road side parking
Source RCACC 1999 / 2000

Below : Junction at Madame Cama Road
Source RCACC 1999 / 2000

5.15 Traffic Survey
(refer Drg. 29)

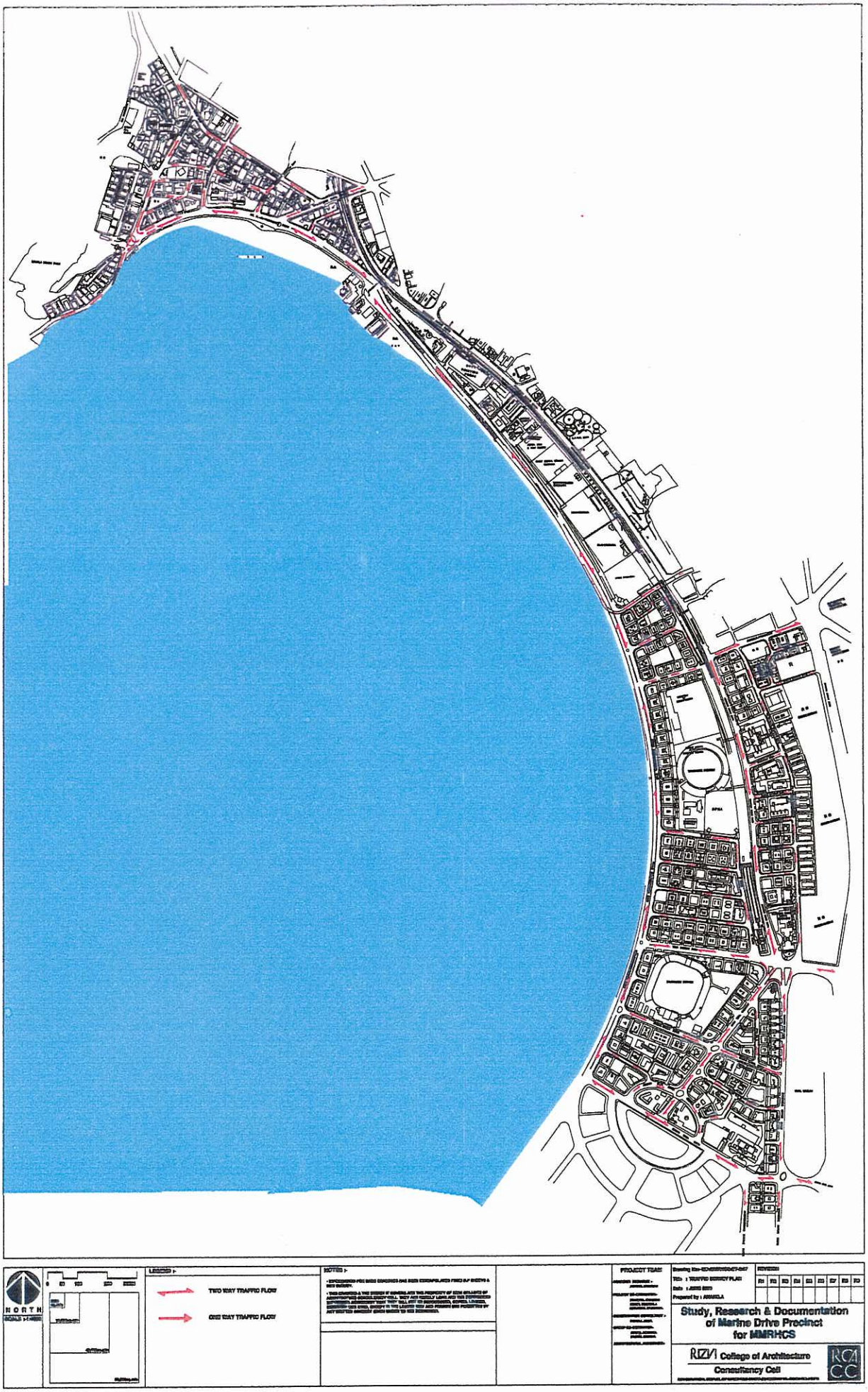
The Marine drive precinct is flanked by two arterial roads of the Mumbai City namely Netaji Subhash Chandra Bose Road and Maharishi Karve road on the west and east side respectively.. In addition to this the suburban Western Railway cuts through the precinct and culminates at Churchgate station.

These three routes constitute the major mass of movement in the precinct. These roads are further complemented by Jamshetji Tata, Veer Nariman and Madame Cama Road in the south and Sardar Vallabhbhai Patel And Babulnath Road in the North.

Although the traffic movement is fairly smooth on N S C Bose Road several bottlenecks are created due to crossing pedestrian and vehicular traffic at various junctions. The Chowpatty being the hub of cultural activity of the city is less privileged in terms of traffic management.

The most unnerving fact of the precinct is the stark inadequacy in terms of parking provisions. The requirement of parking largely outnumbers the provided spaces leading to traffic bottlenecks due to inappropriate double and single parking.

The average hourly traffic counts at junctions is presented in the traffic survey (Drg.29).



Drg 29 Traffic Survey
Source RCACC 1999/2000

LEGEND :-

TELEPHONE BOOTH

BUS STOP

DUST BINS

SEATING

STREET LIGTHINGS

5.16 Urban Design Survey 1
(refer Drg 30, 31,32, 33, 34, 35)

The urban design surveys were designed to understand the formal as well as the informal components of the urban fabric which affects the day to day functioning of the citizens.

The locations of the bus halts, dust bins, seating benches, telephone booth and street lighting are presented in the first survey.

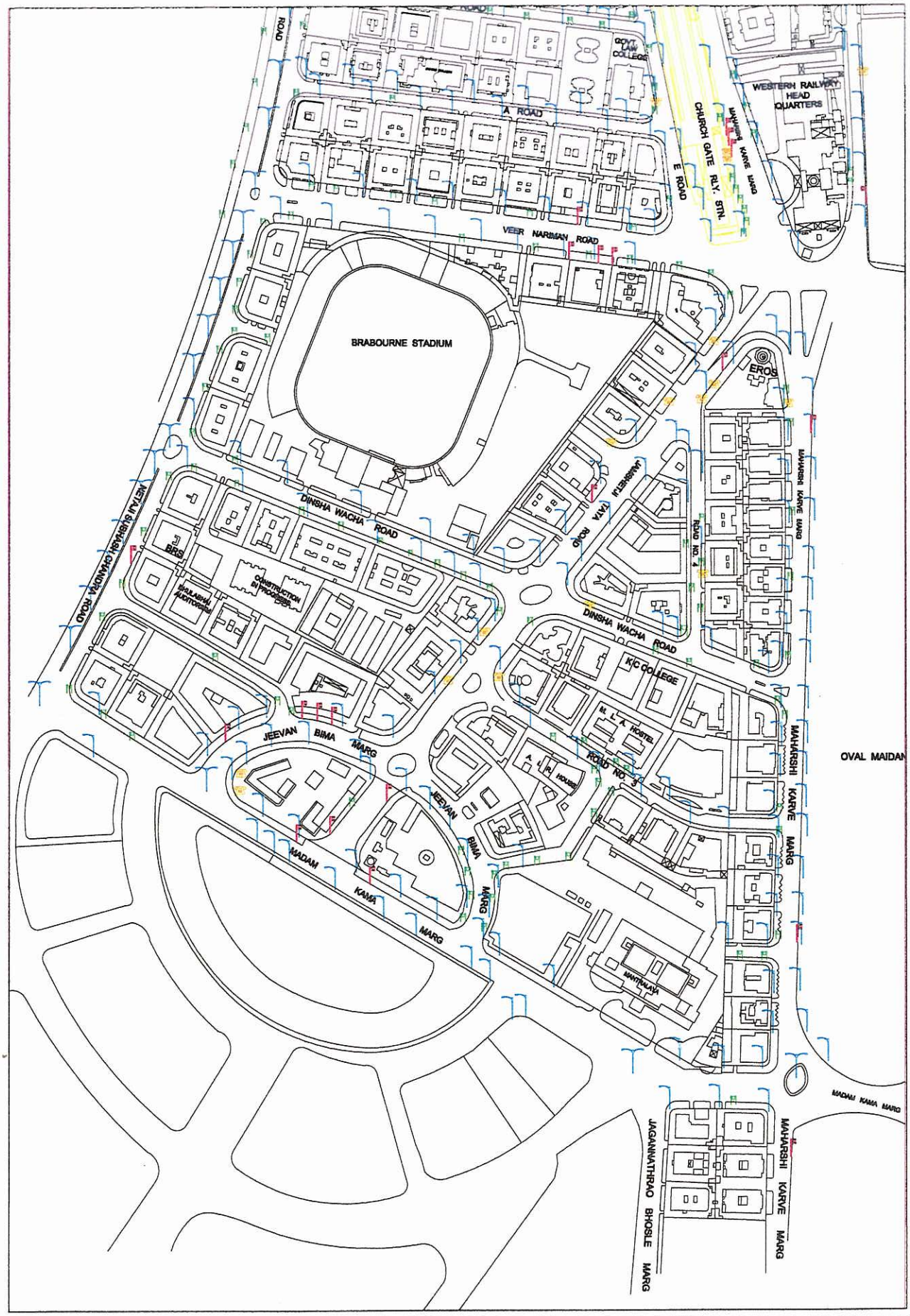
These provisions are conspicuous by their near complete absence in the central and northern part of the precinct.

The area in the south has been provided with the above amenities but due to lack of maintenance are very ineffective for its purpose.

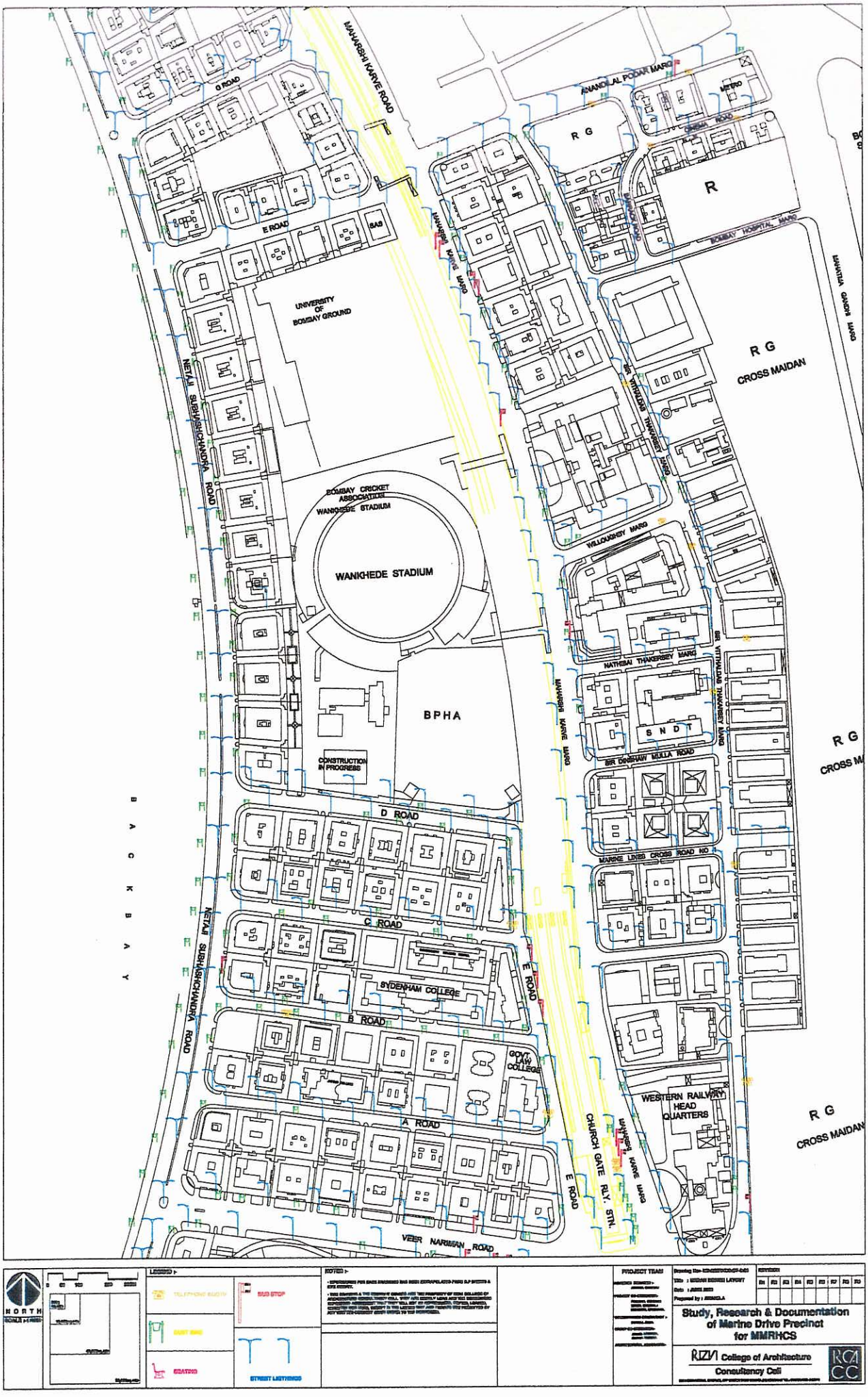
Street Signage , Marine Drive
Source RCA 2000

Bus halt on Marine Drive
Source RCACC 1999 / 2000

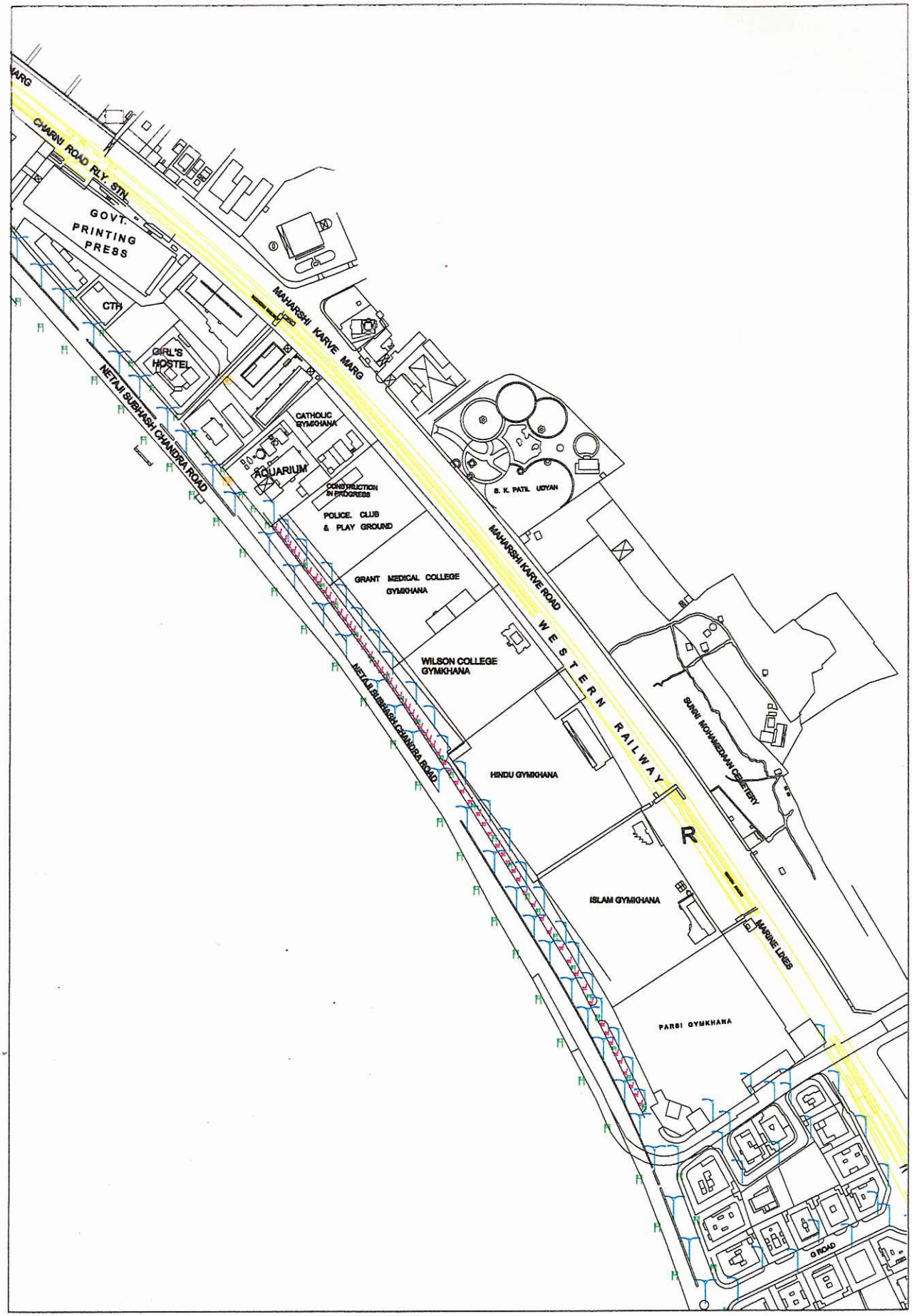
Drg 30 Urban Design Survey 1
Source RCACC 1999/2000



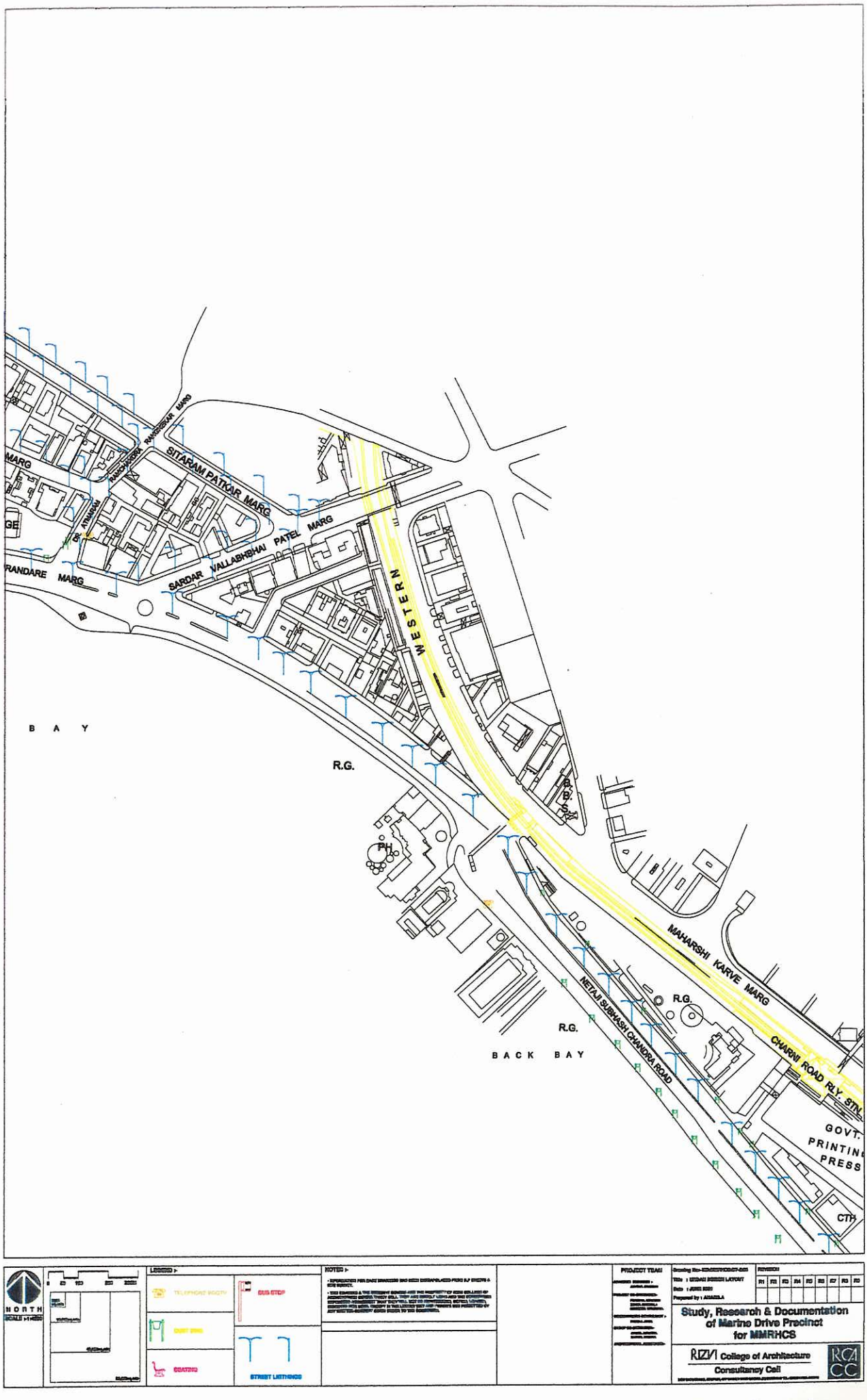
Drg 31 Urban Design Survey 1
J Tata Road /V Nariman Road
Source RCACC 1999/2000



Drg 32 Urban Design Survey 1
A,B,C,D,E Roads & New Marine lines
Source RCACC 1999/2000



Drg 33 Urban Design Survey 1
Gymkhana Area
Source RCACC 1999/2000



Drg 34 Urban Design Survey 1
SVP Road & Chowpatty
Source. RCACC 1999/2000

Drg 35 Urban Design Survey 1
Chowpatty &Babulnath Mandir Area
Source RCACC 1999/2000

LEGEND :-

TEA STALLS

PAN BEDI SHOP

REFRESHMENTS

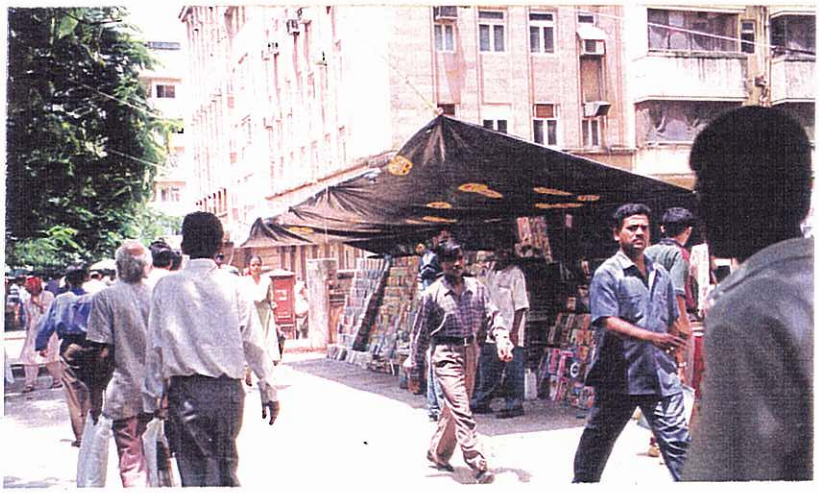
OTHERS (Including all the remaining vendors)

5.16 Urban Design Survey 2
(Drg. 36, 37, 38, 39, 40)

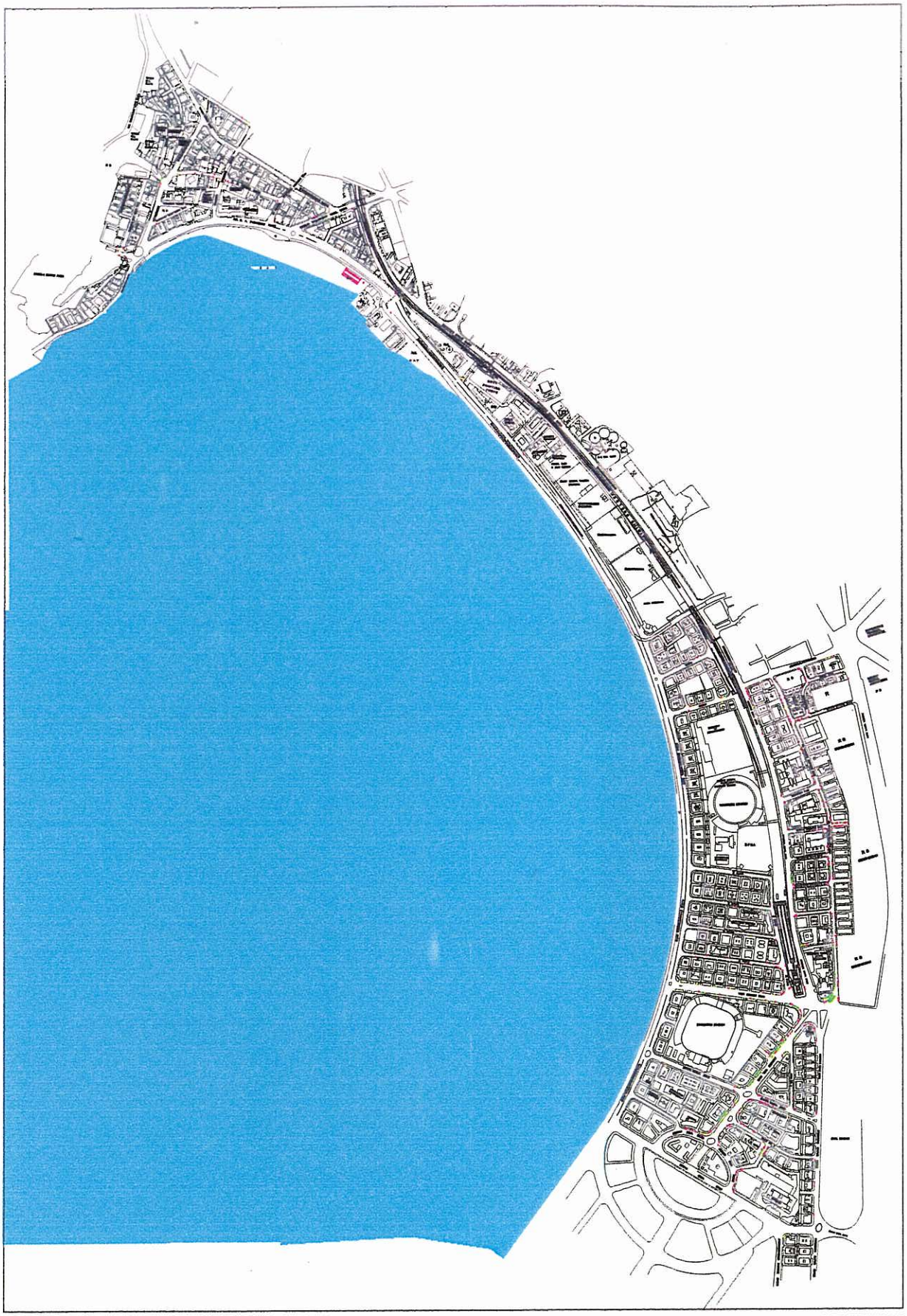
The second urban design survey records the informal activity in the precinct.

The components being the hot beverage stalls, paan bidi shops, food stalls and miscellaneous vendors ranging from books to customs free goods.

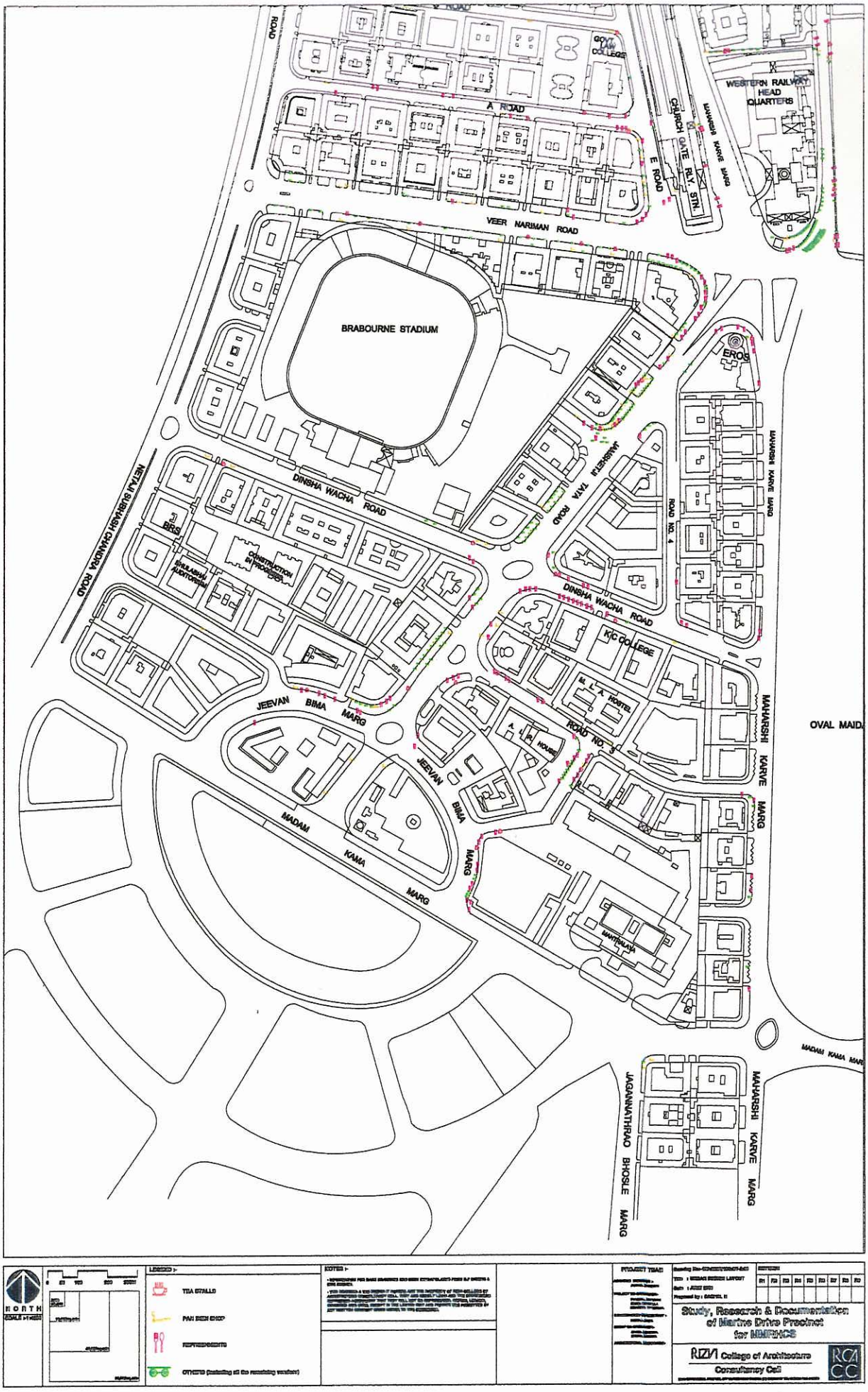
Recording the informal activity reveal a series of patterns of movement of hawkers, their clientele as well as the need for optimum infrastructure for their activities. It also reflects the omnipresent need for informal sector in the CBD of a bustling metropolis.



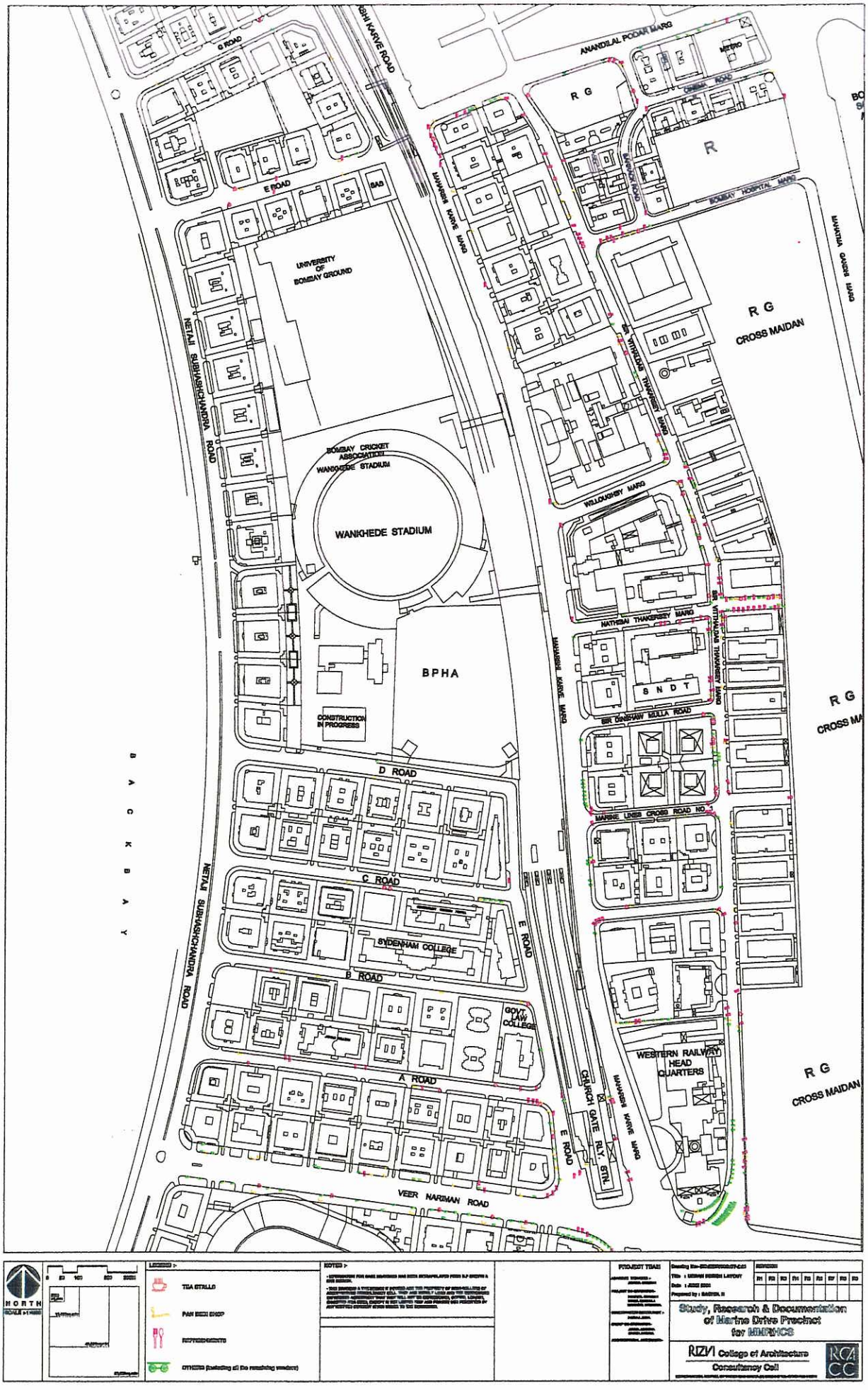
Road Side Shop & Food Stalls
Source RCACC 1999 / 2000



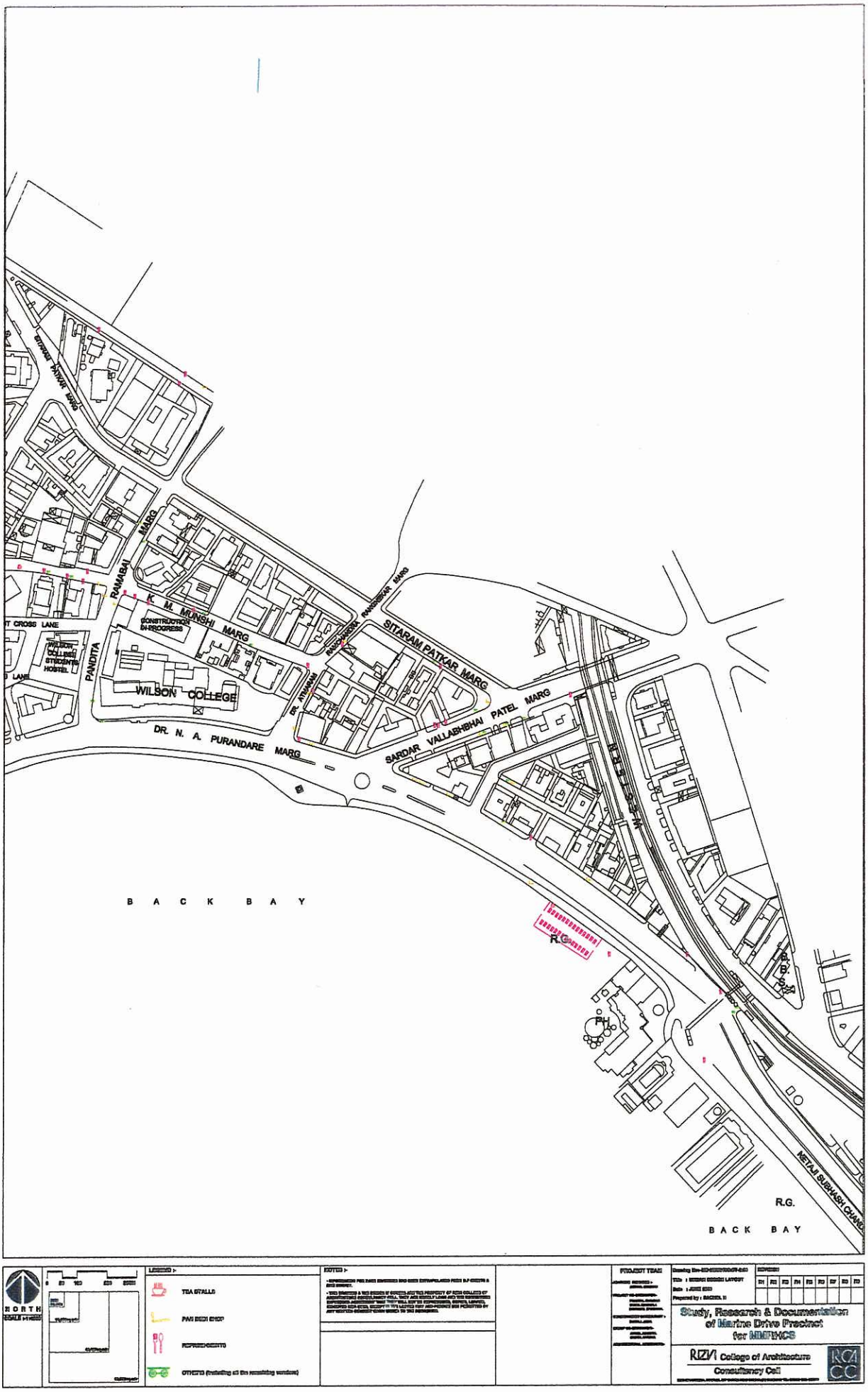
Drg 36 Urban Design Survey 2
Source RCACC 1999/2000



Drg 37 Urban Design Survey 2
J Tata Road /V Nariman Road
Source RCACC 1999/2000



Drg 38 Urban Design Survey 2
A,B,C,D,E Roads & New Marine lines
Source RCACC 1999/2000



Drg 39 Urban Design Survey 2
SVP Road & Chowpatty
Source RCACC 1999/2000

Drg 40 Urban Design Survey 2
Chowpatty & Babulnath Mandir Area
Source RCACC 1999/2000

5.17 Cessed Buildings Location Plan
(Drg. 40a)

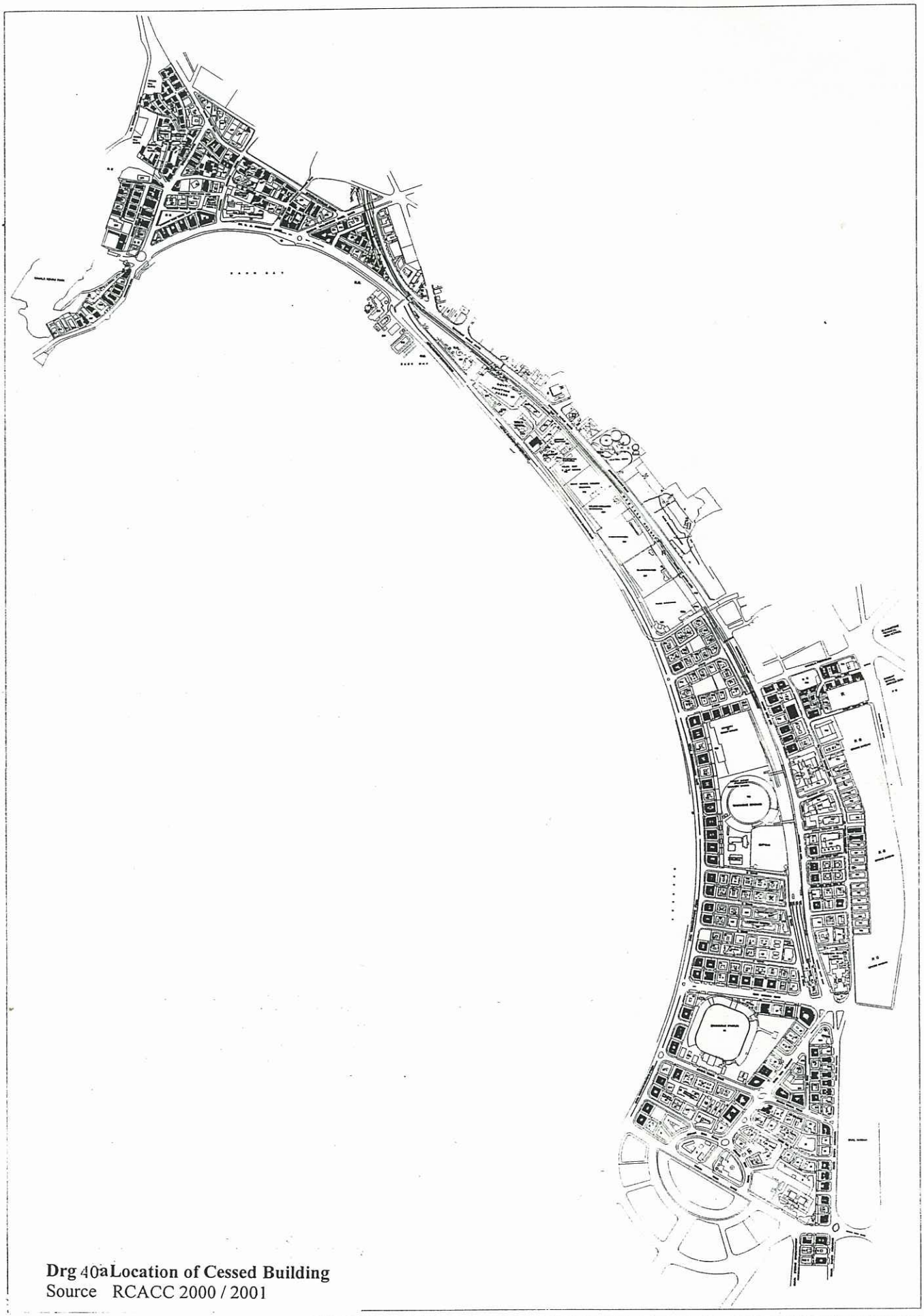
The locations of buildings which fall under the cessed categories of A, B, & C is indicated in the following drawing.

The data is extrapolated from information provided by Repair and Reconstruction board offices at Tardeo, Transit Camp Colaba and Marine Lines.

More than 40% buildings(with 66% built up area component) in precinct and nearly most of the Drive and Oval Maidan facing which belong to the significant stock of Group A structures are cessed structures. Hence implications of Development Control Regulation 33(7), 33(8) and 33(9) would be extremely harmful for the conserving the essential character of the precinct.

With very high existing Floor Space consumption the "incentive FSI" would spell complete subjugation of the existing fabric.

Group of Cessed Buildings on Marine Drive
Source RCACC 2000 / 2001



Drg 40a Location of Cessed Building
Source RCACC 2000 / 2001

NORTH
SCALE >1:4500

0 50 100 200 300M

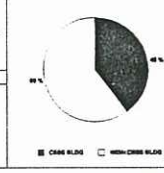
LEGEND :-

NO OF BUILDING	
221	LOCATION CESS BUILDING

NOTES :-

- INFORMATION FOR BASE DRAWINGS HAS BEEN EXTRAPOLATED FROM D.P SHEETS & SITE SURVEY.
- THIS DRAWING & THE DESIGN IT COVERS ARE THE PROPERTY OF RCVI COLLEGE OF ARCHITECTURE CONSULTANCY CELL. THEY ARE MERELY LOAN AND THE BORROWING EXPRESSED AGREEMENT THAT THEY WILL NOT BE REPRODUCED, COPIED, LENDED, EXHIBITED NOR USED, EXCEPT IN THE LIMITED WAY ARE PRIVATE USE PERMITTED BY ANY WRITTEN CONSENT GIVEN UNDER TO THE BORROWER.

PERCENTAGE OF CESS BLDGS



PROJECT TEAM

Drawing No:- MD/SRR/RCB/ST-0/1
Title : PLAN SHOWING CESS BLDG
Date : NOVEMBER 2000
Prepared by : SACHIN. M

REVISION								
R1	R2	R3	R4	R5	R6	R7	R8	R9

Study, Research & Documentation of Marine Drive Precinct for MMRHCS

RCVI College of Architecture
Consultancy Cell

6.0 Architectural Documentation

6.1. Street Elevations
(refer Drg. 41, 42, 43)

Architectural documentation of representative examples were undertaken with impetus to document street facades of most looked at faces of Marine Drive, Maharshi Karve Road, Jamshetji Tata Road, Veer Nariman and Babulnath Road.

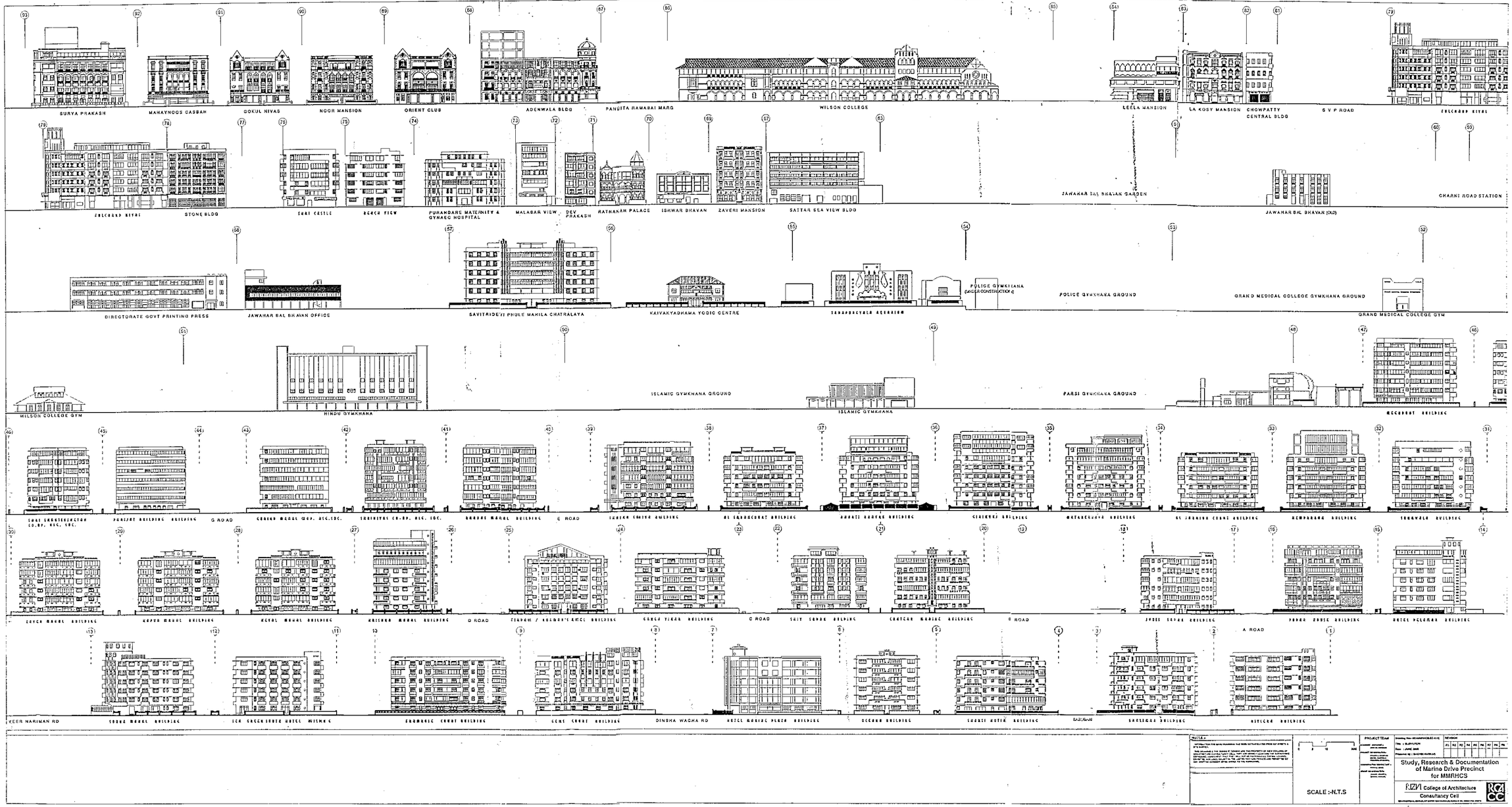
Documentation of street facades will ascertain the elevation controls including heights, scale, proportion and articulation.

On a brief glance the street facades present complete failure in the reciprocity of the advertisements, signage hoarding and building services to the existing built fabric.

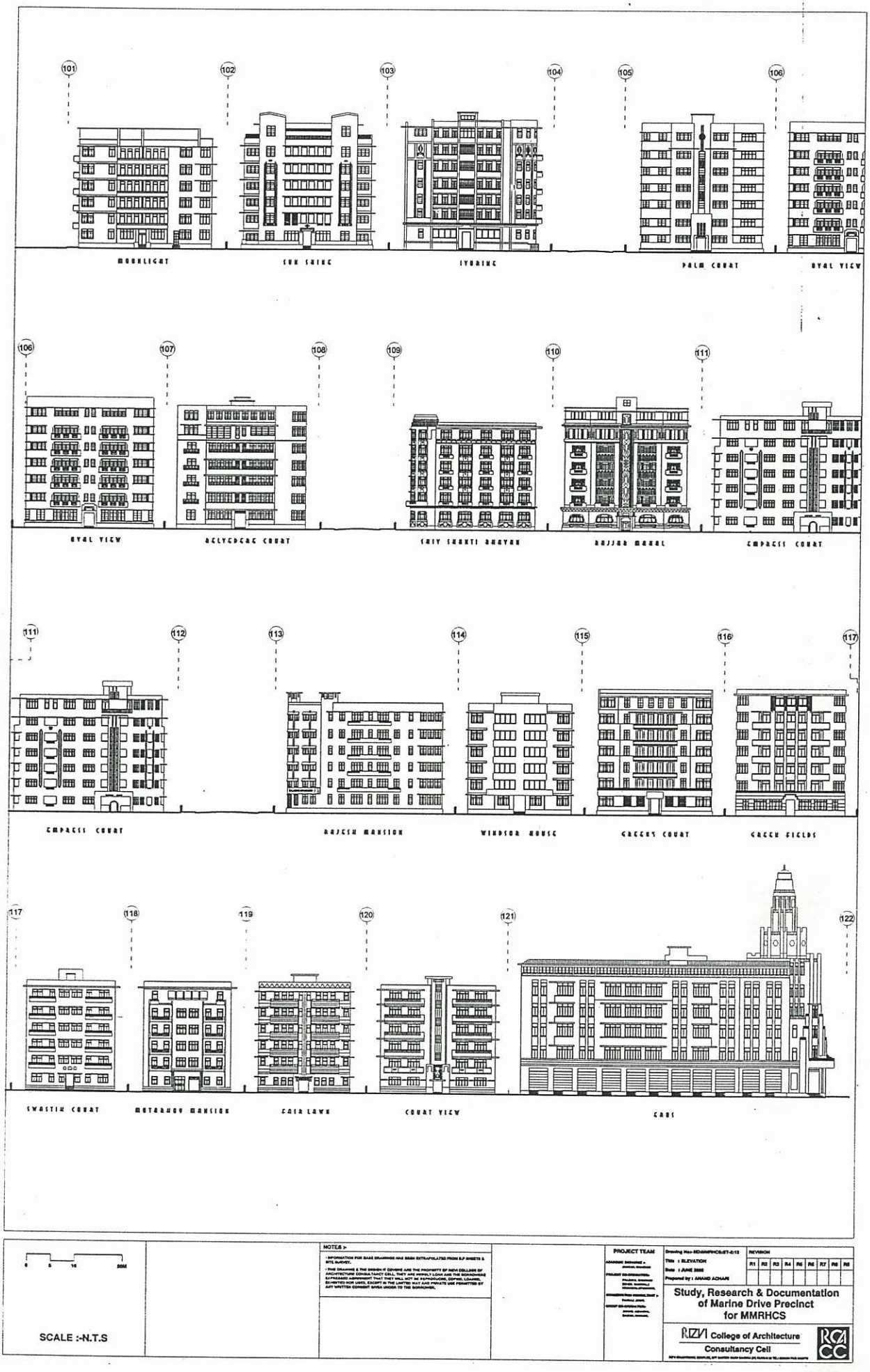
Significant Building in Marine Drive Precinct
Source RCACC 1999/2000

6

ARCHITECTURAL DOCUMENTATION



Drg 41 Street Elevation 1
N S C Bose Road (Marine Drive)
Source RCACC 1999/2000

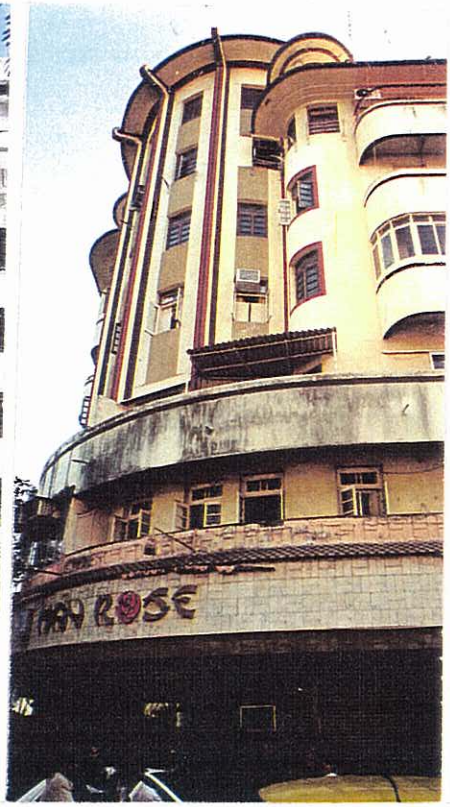


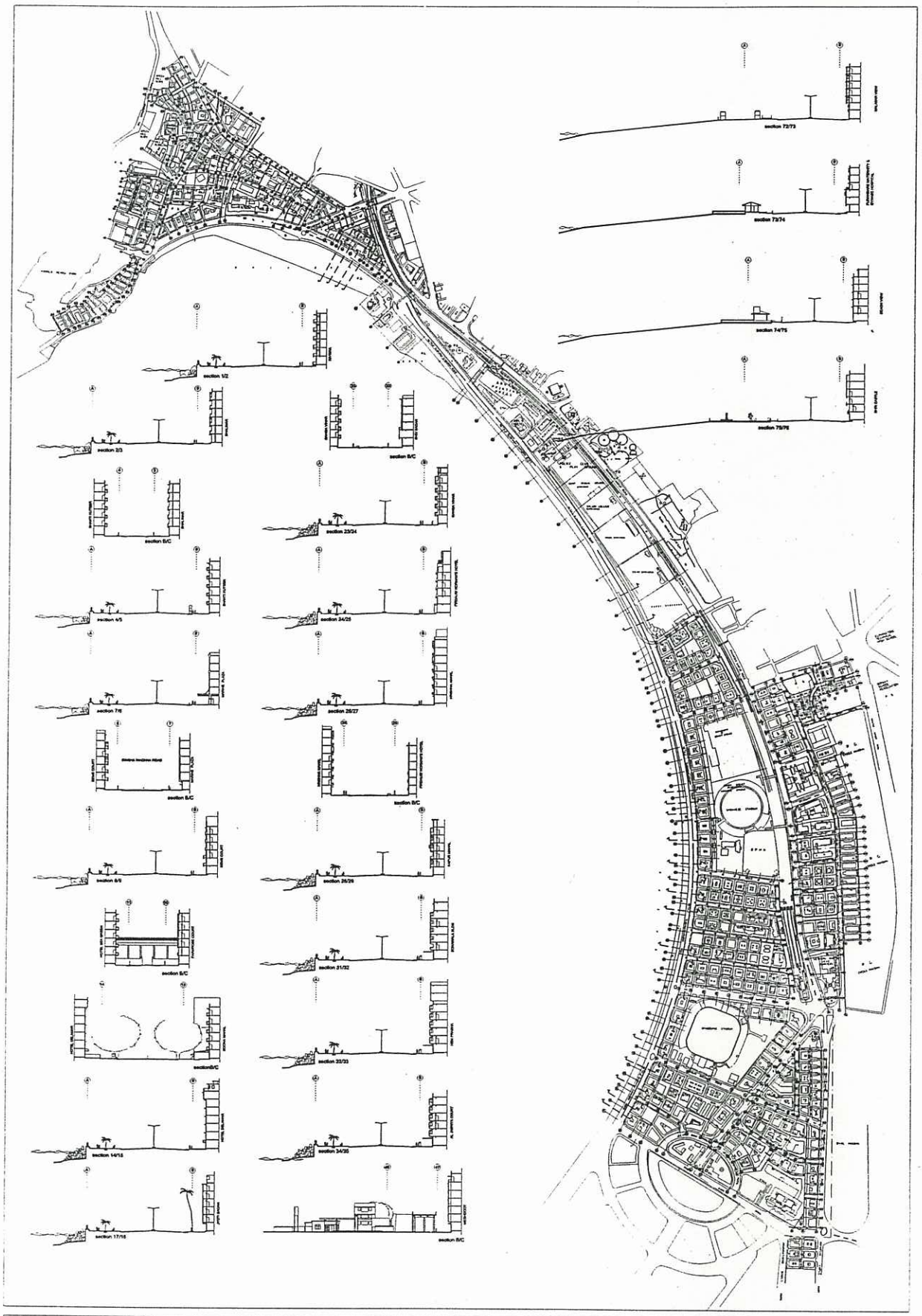
Drg 42 Street Elevation 2
M Karve Road (Oval maidan face)
Source RCACC 1999/2000

6.2 Street Sections
(Refer Drg.44, 45)

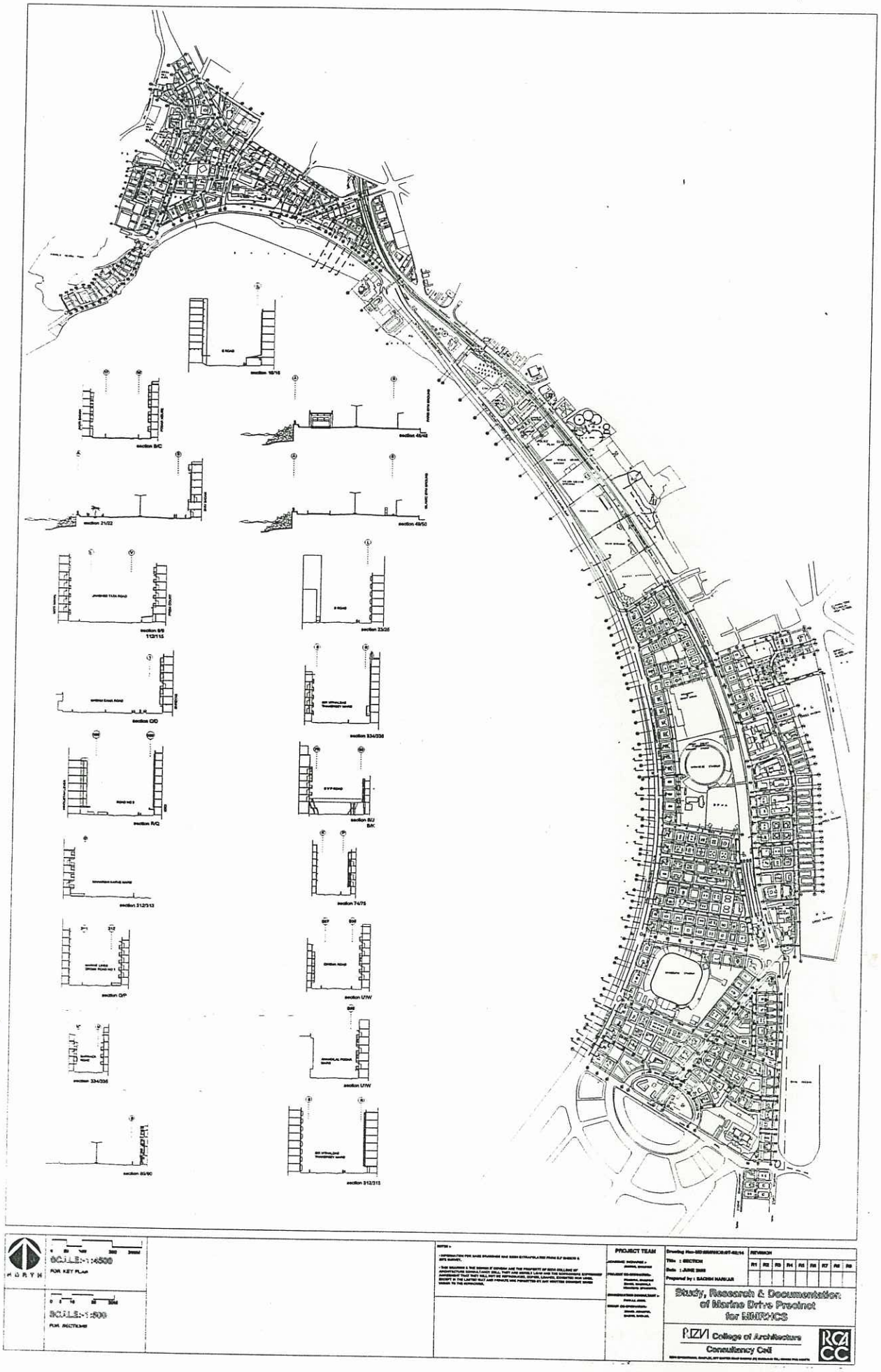
Documentation of street sections facades will ascertain the proportions of open spaces to the building height and the setback controls needed for varying widths of streets. These sections would also ascertain the actual sight lines to be incorporated as guidelines for elevation controls.

This documentation also recorded the degree of transparency required in the form of balconies or outdoor rooms to ensure the wider perceived open space from the vehicular and pedestrian sections of the main, secondary and tertiary roads.





Drg 44 Street Sections 1
Source RCACC 1999/2000



Drg 45 Street Sections 2
Source RCACC 1999/2000

STUDY, RESEARCH AND DOCUMENTATION OF
MARINE DRIVE PRECINCT FOR MUMBAI METROPOLITAN REGION
HERITAGE CONSERVATION SOCIETY

STUDY CONDUCTED BY RIZVI COLLEGE OF ARCHITECTURE
CONSULTANCY CELL

3rd STAGE REPORT

PART 1

Contents

Introduction

The report is laid out as follows:

Information and Introduction in Chapter One & Two

Objectives and Stages of work is stated in Chapter Three

Methodology is established in the fourth chapter

Intentions are recapitulated in the fifth chapter.

Documentation is presented in the sixth chapter.

Analysis and Derivations are prepared for in the seventh chapter.

The final chapter discuses and presents the development control guidelines

The first two chapters describe the origin of Art deco movement followed by the growth and development of the Art Deco architecture in Mumbai City

The fourth highlights the process and the working structure of the research followed by the fifth chapter examining the statement and compilation of the researched data. Architectural documentation is furnished in the sixth chapter

The seventh chapter works on an analytical matrix, which scrutinises interrelation of the surveys undertaken and derives inferences from it.

Architectural and Development Control guidelines specific to Marine Drive Precinct is presented in the final chapter.

In order to make the deliberations more lucid, it was essential to augment the Survey Matrix Analysis and Guidelines to the surveys undertaken in the second stage of the study (sections repeated have been indicated with asterisk in the contents page).

Here I wish particularly to mention and express thanks to the following list of team members, students and consultants associated with this project.

Pankaj Joshi,	Conservation/Project Consultant
Pradnya Chauhan	Project Co-ordinator
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It seemed natural, with so many of us involved, to write in the first person plural, a style with which I think most architects and planners anyhow feel happier, and this we do from now on.

Akhtar Chauhan
Principal Rizvi College of Architecture