

**STUDY, RESEARCH & DOCUMENTATION
OF
MARINE DRIVE PRECINCT
FOR
MMRHCS**

**STUDY CONDUCTED BY
RIZVI COLLEGE OF ARCHITECTURE
CONSULTANCY CELL**

MARINE DRIVE

Part 1



Study Conducted By

Rizvi College Of Architecture
Consultancy Cell

Published By

MMR-Heritage Conservation Society

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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 in the seventh chapter.
The final chapter discusses 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.

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

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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

01st August 2001

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1

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

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

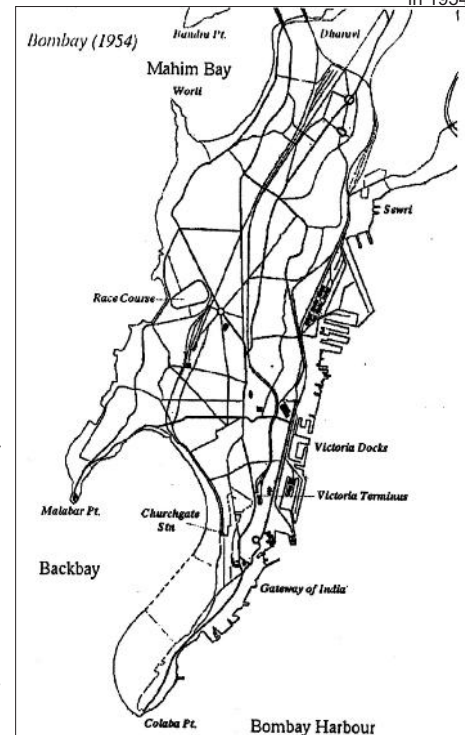
2.2.1 The first Backbay Reclamation Company was formed during the boom years of the early 1860's, with the stated purpose of reclaiming the whole of Backbay. With the end of the American Civil War, in 1865, a depression set in and land prices fell. The company went into bankruptcy and was liquidated. 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 In 1887 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 Reclamation committee under the presidentship of Sir Vithaldas Thakersey, to advise 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

Drg 2. Schematic Map of Bombay Island City in 1954



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."

Drg 1. Schematic Map of Bombay Island City in 1846

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 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.

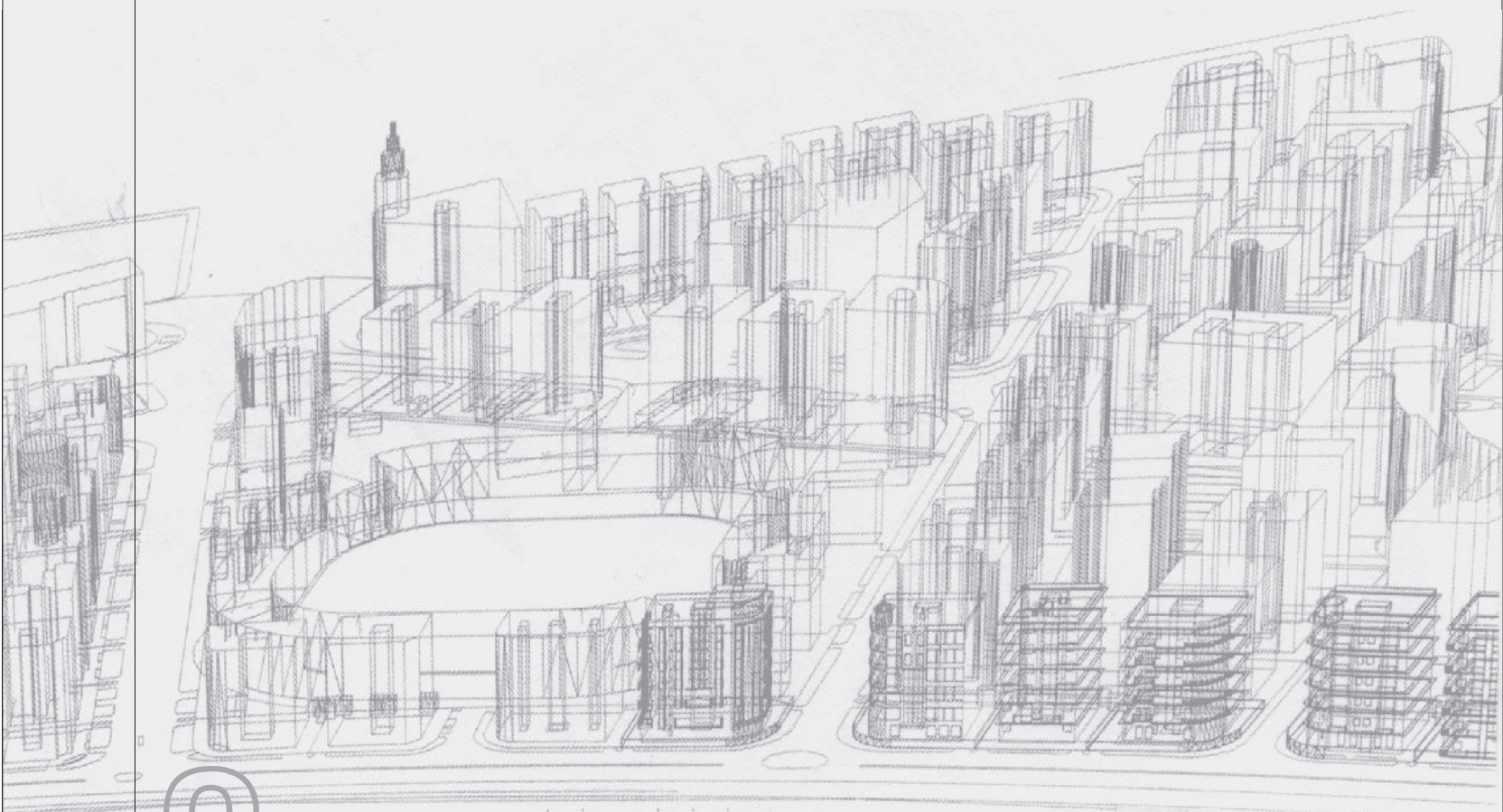
2.2.7 Eventually 4 blocks were completed in 1929, a total of 439.6 acres. Of this 234.8 acres was sold to the military at a cost of Rs. 2.06 crores, and 16.6 acres was incorporated into the Marine Drive and its sea wall.

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

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

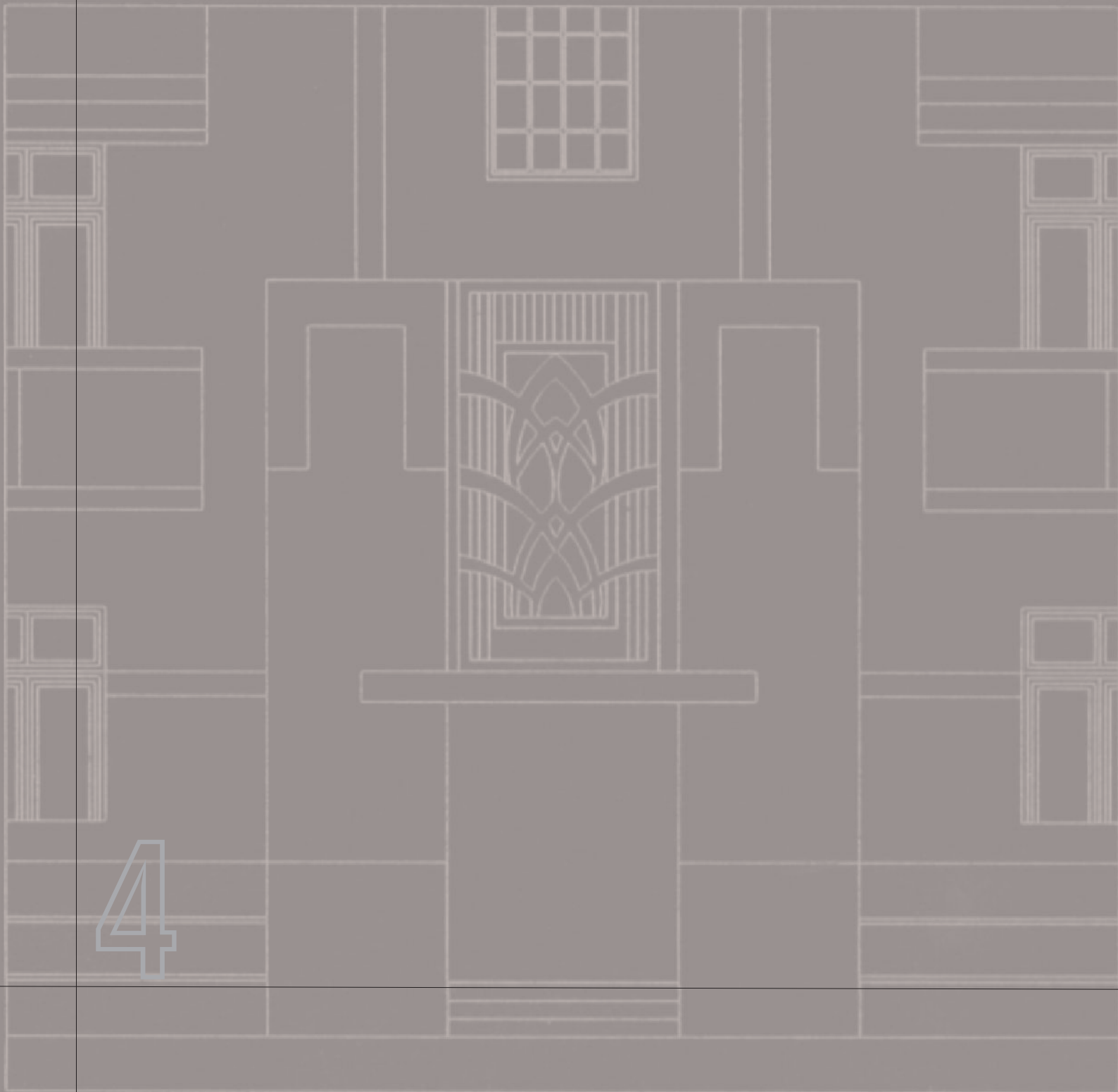
3.2 Stages of Work

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.



4 Methodology

.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.

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.

4.6 Survey

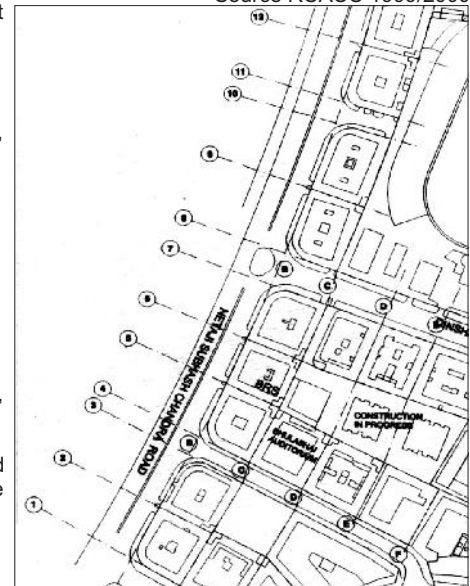
4.6.1 Survey cards recorded and attended to all aspects of ownership, building use, building age, building condition and building topography

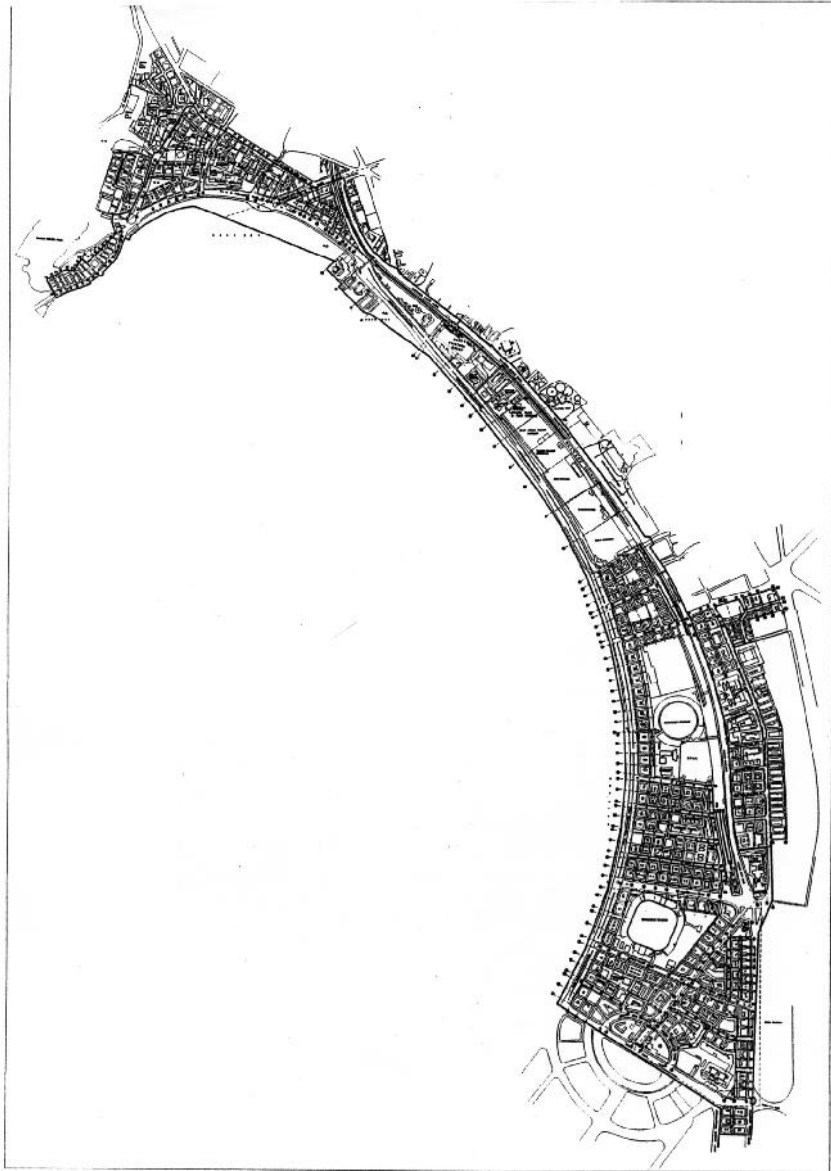
4.6.2 Construction and façade details, architectural quality, fire precautions, main and subsidiary access, parking requirements, parking provisions and potentialities of use were noted for each of the five hundred and forty eight buildings.



Marine Drive
Source Mehrotra / Dwivedi(1995)

Drg. 3 Enlarged Detail for Grid Reference.
Source RCACC 1999/2000





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

		<p>NOTES</p> <p>1. All dimensions are in meters unless otherwise stated.</p> <p>2. All dimensions are to the centerline of the road unless otherwise stated.</p> <p>3. All dimensions are to the centerline of the building unless otherwise stated.</p> <p>4. All dimensions are to the centerline of the wall unless otherwise stated.</p> <p>5. All dimensions are to the centerline of the floor unless otherwise stated.</p> <p>6. All dimensions are to the centerline of the roof unless otherwise stated.</p> <p>7. All dimensions are to the centerline of the ground unless otherwise stated.</p> <p>8. All dimensions are to the centerline of the sea level unless otherwise stated.</p> <p>9. All dimensions are to the centerline of the datum unless otherwise stated.</p> <p>10. All dimensions are to the centerline of the datum unless otherwise stated.</p>		<p>PROJECT NAME</p> <p>Study, Research & Documentation of Marine Drive Precinct for MAMHCS</p>	<table border="1"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td><td>61</td><td>62</td><td>63</td><td>64</td><td>65</td><td>66</td><td>67</td><td>68</td><td>69</td><td>70</td><td>71</td><td>72</td><td>73</td><td>74</td><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td><td>80</td><td>81</td><td>82</td><td>83</td><td>84</td><td>85</td><td>86</td><td>87</td><td>88</td><td>89</td><td>90</td><td>91</td><td>92</td><td>93</td><td>94</td><td>95</td><td>96</td><td>97</td><td>98</td><td>99</td><td>100</td> </tr> </table>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
<p>PROJECT NO.</p> <p>1999/2000</p> <p>DATE</p> <p>1999/2000</p> <p>SCALE</p> <p>1:1000</p> <p>PROJECT LOCATION</p> <p>Marine Drive Precinct for MAMHCS</p> <p>PROJECT OWNER</p> <p>MAMHCS</p> <p>PROJECT ARCHITECT</p> <p>RZV1 College of Architecture</p> <p>PROJECT CONSULTANT</p> <p>Consistency Cell</p>																																																																																																									

RCACC



(4)

MD/V/4576



(3)

MD/V/4576

Plot	Address	J TATA RD , MUMBAI-20	Floors	7
Date	Name of Premises / Business		RAM MAHAL	
21/8/99				
Interview			Signature	
Date of Photograph	21/8/99			
Grid Reference	FACE V, 110-112			

Drg. 5. Sample Survey Sheet Set-1
Source RCACC 1999/2000

Owner/Trust/Society ARVIND KOTECHA

Tenant Owner	No. of Residents		No. of Residents	
			Male	Female
TEN:	Ground	BANK OF BORDA, RAENA RESTAURANT		
11	First	3 FLATS	2	2
11	Second	3 FLATS	3	0
11	Third	3 FLATS	5	7
11	Fourth	3 FLATS	4	6
11	Fifth	3 FLATS	2	3
11	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, FIGUS GROWTH AT BALCONY / PIPE JUNCTIONS
Age	CORNER STAIRCASE BLOCK WITH VERTICAL OPENING a) 1945 b) 1970'S c) PROBABLY SPANNING 4 STOREYS 1990'S
Architectural Quality	
Townscape	INTROVERT CORNER BLDG'S
Intrinsic	FINE CURVED STAIRCASE WITH CENTRAL LIFT BLOCK. LIFT ACCESS AT MID LANDING LVL

Notes and Diagrams: ADDITIONAL 6TH FLE ALLEGEDLY ILLEGAL ENKROACHMENT / PRIVATE ENCLOSURE BY RAENA RESTAURANT HINDERS FREE ACCESS AROUND BLDG.

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



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 2 FIRE ESCAPE / SERVAINTS STAIRCASE
 Precaution 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.

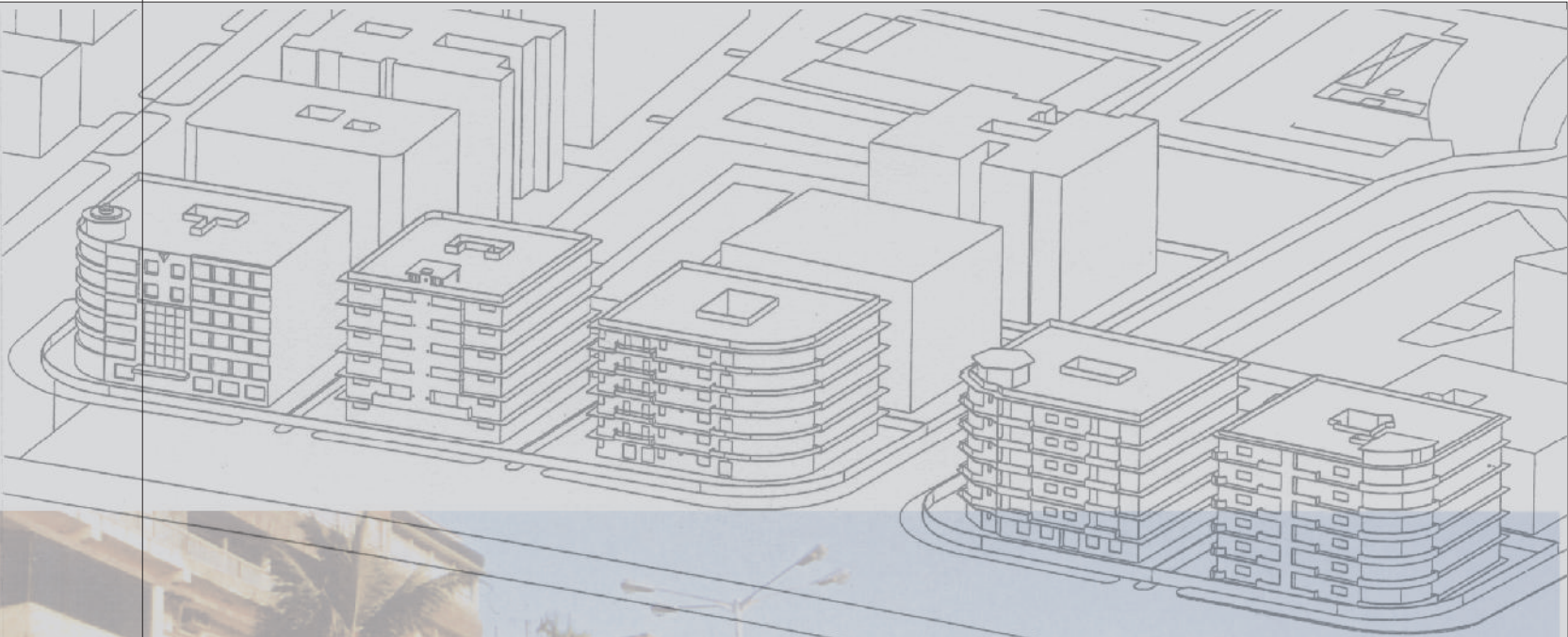
Access
 Main Access JAMSHED TATA ROAD
 Subsidiary Access TWO MAIN, ONE OF WHICH IS NOT IN USE AS IT IS ENCRONCHED BY ROAD SIDE STALLS FROM SHANKAR JAIKISHAN CHOK.
 Potential Access a) USED BY BANK b) PRIVATE USE OF RAJNA RESTAURANT

Vehicles SAME AS ABOVE.

Parking
 Requirement 20 (L.M.V. - LIGHT MOTOR VEHICLE) 3 TWO-WHEELER
 Provision 15 PARKED IN COMPOUND, 5 ON THE ADJOINING ROAD.
OPEN PARKING FOR ABOUT 10 VEHICLES, 9 GARAGES OUT OF WHICH 4 ARE SOLD TO RAJNA RESTAURANT.

Curtilege
 Unbuilt Space PART OF SIDE OPEN SPACE ENCLOSED BY RAJNA RESTAURANT, COMPOUND WALL DILAPIDATED WITH CORRODING GRILLWORK
 Outbuildings
 1) GARAGE 1)
 2) GARBAGE DUMP.

Drg. 7. Sample Survey Sheet Set-1
 Source RCACC 1999/2000



5

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 Cama 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)

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)

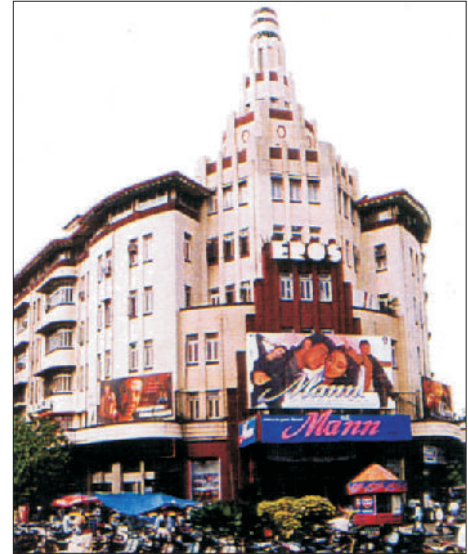
5.3.4 Netaji Bose marg constitutes a major artery for movement alongwith the Veer Nariman marg Madam Cama marg, Babulnath marg and Sitaram Patkar marg.

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.

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.

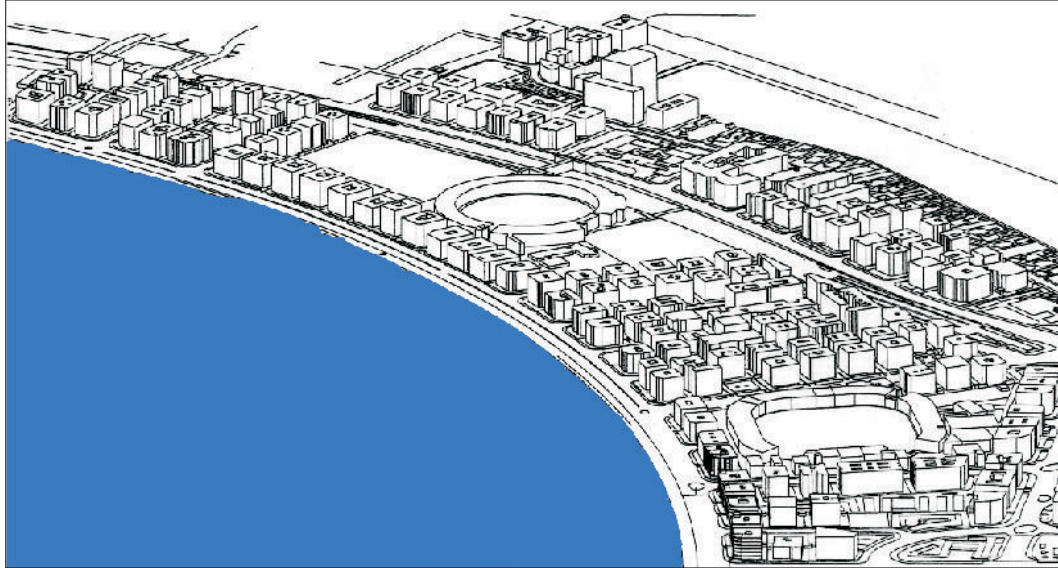
5.3.8 The architectural as well as observed functional pattern prompts the



Eros Theater
Source RCACC 1999/2000



Ambassador Hotel
Source RCACC 1999/2000



3D View of Marine Drive Precinct
Source RCACC 1999/2000

Classification of the area into several major and minor districts.

5.3.9 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

5.4 Precinct Boundary

5.4.1 The Brihanmumbai Mahanagarपालिका vide Development Control Regulation No. 67 has delineated a precinct .

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.

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.



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

5.5 Open Space and Built Form Pattern

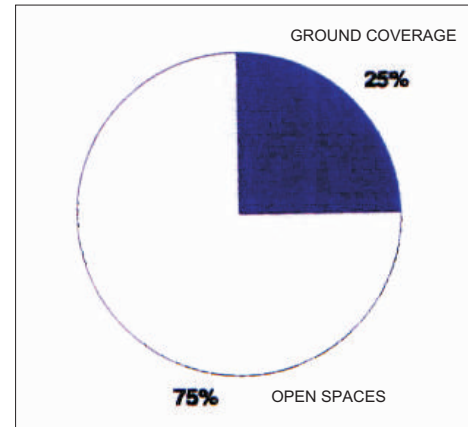
Drg. 18 and 19 represents the contrast between the built up area and the open space around including the roads. The pattern, which emerges, makes evident the nature of the precinct development.

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



Pie Chart
Source RCACC

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.

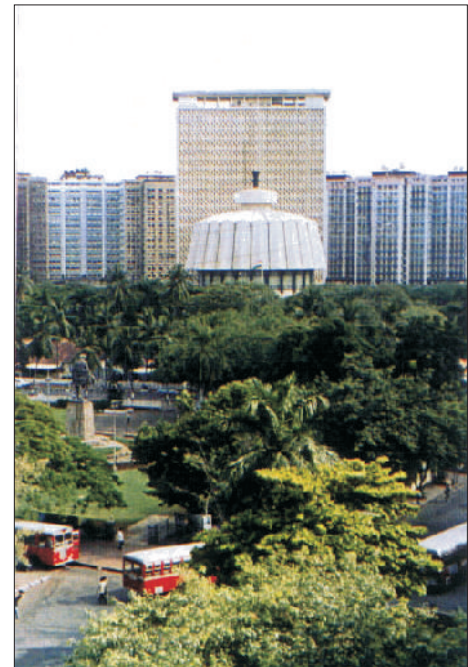
Large concentration of institutional user is observed in area adjoining Churchgate station. The north extremity of Babulnath Mandir and Chowpatty has a mix of commercial, institutional and residential user.

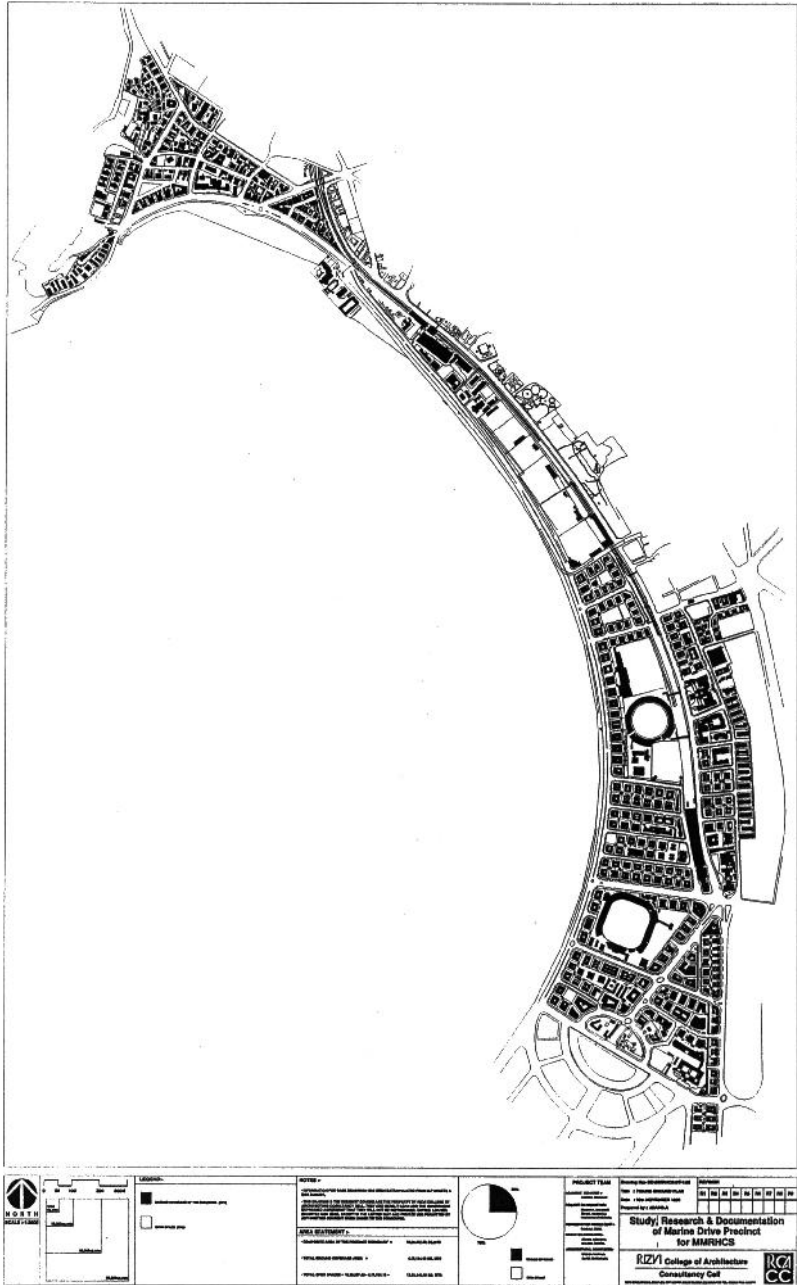
5.7 Existing Building Use Plan (Refer Drg. 21)

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

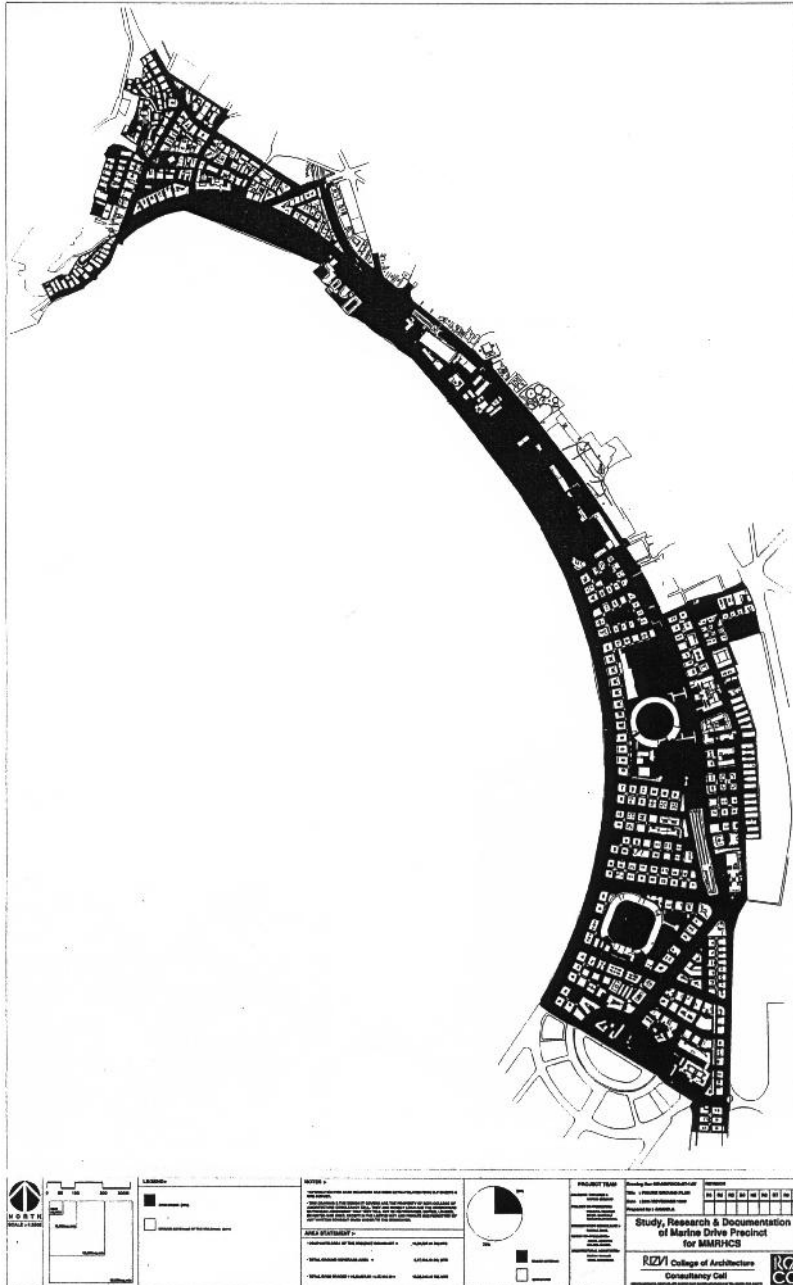
The areas in southern section adjoining Nariman point CBD and Churchgate station is a near equal mix of institutional and commercial buildings.

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

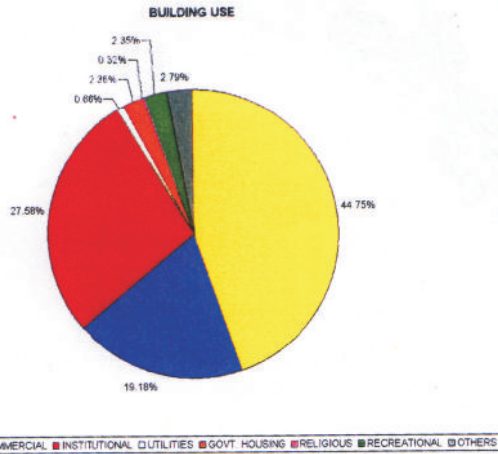




Drg. 18 Open Space and Built Form Pattern I
 Source RCACC 1999/2000



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



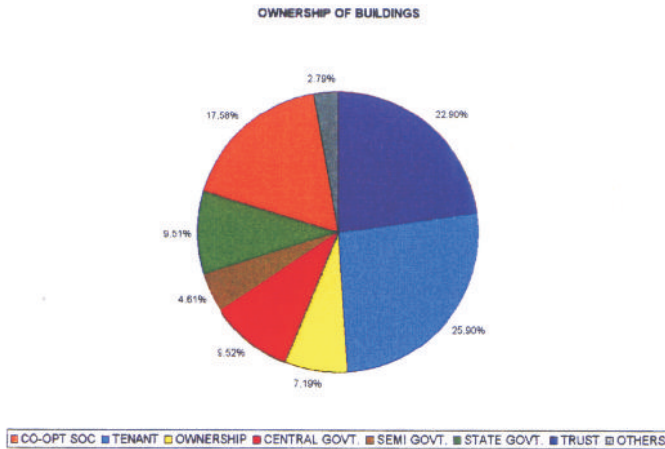
Building use distribution in area of study:

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%)

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%)



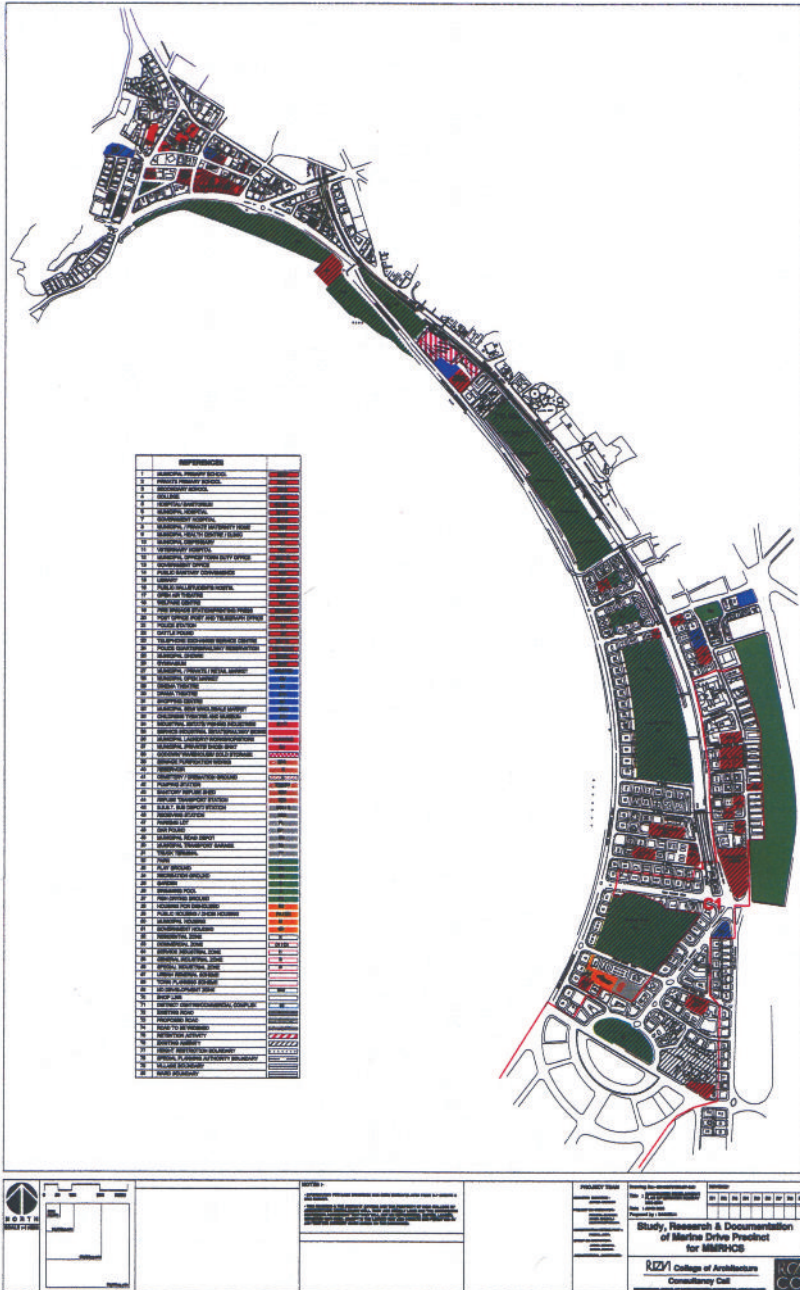
The locality encompassing Marine Drive precinct a predominant tenanted pattern followed by state and central government owned buildings. This content of tenanted properties prompts towards guidelines with requisite input conforming to The Maharashtra Housing and Area Development Act, 1976 and the Rent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



LIC Building, Church Gate
Source 1999/2000



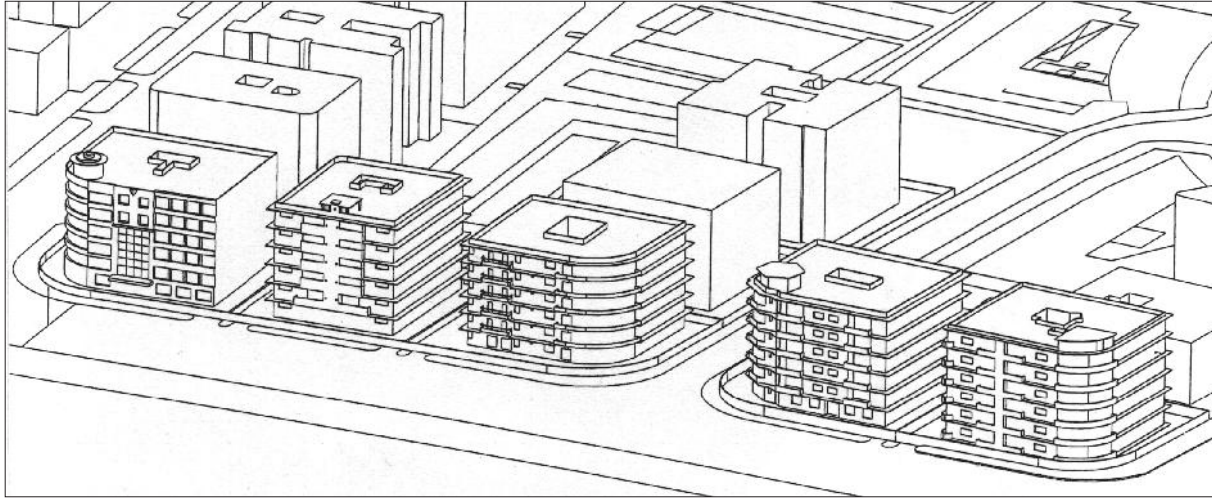
Tenanted Bldg, New Marine Lines
Source 1999/2000



Drg. 20 Proposed Development Land Use Plan
Source RCACC 1999/2000

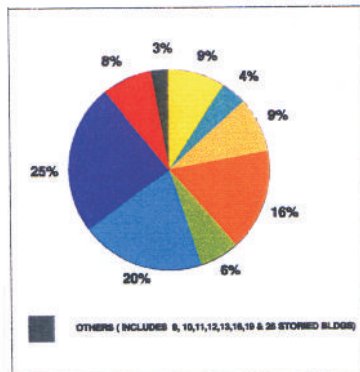


Drg. 22 Ownership of Building
Source RCACC 1999/2000



3d View of Marine Drive
Source RCACC 1999/2000

Pie Chart
Source RCACC 1999/2000

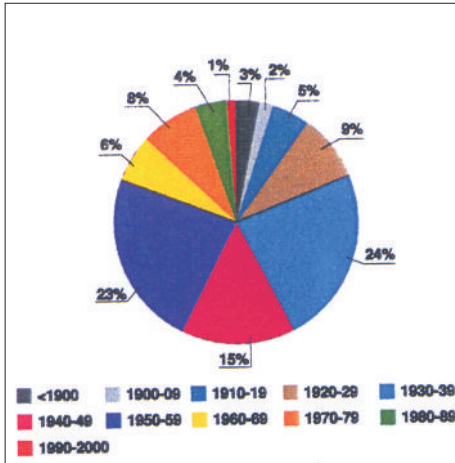


5.9 Topography of Buildings

Fig. 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 storied -	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%

ANALYSIS OF TOPOGRAPHICAL DATA OF 546 ⁺ BLDG			
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



Soona Mahal, NSC Marg
Source RCACC 1999/2000



Babulnath temple Entrance
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.

Composition of the age of buildings in Marine Drive.

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

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

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

