

# Unbuilt Macao — A Brief History of Unrealised Urban Planning Proposals for Macao

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**ABSTRACT:** More than half of the territory of Macao is land reclaimed from the sea. The majority of this growth took place during the twentieth century, but even now Macao continues to expand incrementally into the surrounding waters. Each reclamation is effectively a *tabula rasa* — a ‘blank slate’ with no existing buildings or infrastructure — that allows the reimagining of what a contemporary city might be. This includes quantifiable decisions about street organisation, building volumes, and infrastructural links, but also entails consideration of qualitative effects: degrees of freedom, constraint, coherence, complexity, legibility, permeability, interiority, intimacy, and mystery, the synergistic relationships between different areas, and the types of urban lifestyles thereby enabled and engendered. The cumulative result is a patchwork of contiguous yet discontinuous urban fragments, each one a manifestation of contemporaneous ideas about desirable city design. And for every project built, there have been many more unbuilt proposals. Collectively, these delineate an alternative history, or histories, of Macao: an array of phantom Macao that show what might have been and suggest what might still be possible.

**KEYWORDS:** Urban planning; Macao architecture; Land reclamation.

## ZONA DE ATERROS DO PORTO EXTERIOR (ZAPE)

The first significant reclamation project was for the area known as ZAPE (Zona de Aterros do Porto Exterior), which originated in studies for dredging and reclamation carried out in the late nineteenth century. Portuguese engineer Adolfo Ferreira Loureiro (1836–1911) elaborated a series of major restructuring plans for the Inner Harbour

(Porto Interior) on the west side of the peninsula, but these were always dismissed as being too expensive.<sup>1</sup> He was, however, able to initiate a series of small sea walls and landfills to straighten the ragged coastline. Work was interrupted by the First World War, then in 1919 Hugo de Lacerda (1860–1944) was put in charge of the newly established *Missão de Melhoramento dos Portos de Macau* (Office for the Improvement of Macao’s Harbour). Lacerda

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was a visionary who devised and published a series of proposals for vast, transformative reclamations, most of which were unbuilt.<sup>2</sup> He saw this as more than a technical challenge, linking improvements of the port to improvements in the morals of Macao citizens, giving particular concern to limiting the growth of gambling. At the Lisbon conference on colonial projects (1930), Lacerda posed a rhetorical question:

[Translation by author] *How can we relate the improvement of ports with the morality of habits? [...] it's easy to explain! Macao, albeit exaggeratedly, has been considered a land of vice in the Far East, the oriental Monaco; the decline in port activities and the need for colonial income have given some justification to its detractors. The improvements in the ports are also aimed at amending that detrimental aspect of the Portuguese reputation. Considering the other side of this question, or in other words, considering the influence of a decrease in gambling, one is led to admit here, what is also a general rule – vice is opposed to dignified work; in places where gambling is a major activity, behaviours that deviate from the straight path are frequent. And so it can be truly asserted that a full improvement of the port of Macao can only happen when, perhaps, instead of encouragement there is repression of the vices, with priority given to gambling. A port competing for such a desideratum will in turn benefit from its practical effects.*<sup>3</sup>

Lacerda made good progress on the creation of Patane Port in the Inner Harbour but ran into insurmountable problems with silting and disputes over the extent of Portuguese territorial control (the border between Macao and the Chinese mainland had not yet been clearly defined), so he decided

to initiate a hugely ambitious project for an Outer Harbour (Porto Exterior) on the east side of the peninsula, facing onto the Pearl River Delta. A diplomatic agreement was made with the Chinese authorities in 1920, and dredging began in 1921. The Netherlands Harbour Works Company took about five million cubic metres of sludge from the riverbed, which was transformed into 125 hectares of new land that straightened and widened the eastern seaboard of Macao for the new port facilities.<sup>4</sup> The Outer Harbour was inaugurated on 26 August 1926, following which Lacerda and others produced various masterplans for the new land. Over the following decades, official maps show ZAPE covered with different patterns of streets and building lots, but these were all optimistic fantasies; contemporaneous photos reveal that the area stayed largely unbuilt until the 1980s. During the 1940s and 1950s, it was appropriated for makeshift dwellings and vegetable gardens by immigrants and refugees from the mainland, who mostly arrived during the World War II or fleeing Mao Zedong's reform campaigns.<sup>5</sup> Ultimately, ZAPE never became the intended international trading hub, though it was for a while the site of a landing pier for Pan Am seaplanes.

In 1962, the government established a planning department that comprised five architects, notably the young Manuel Vicente (1934–2013), who was to have a profound impact on later developments. Under the direction of Vicente and Leopoldo de Almeida,<sup>6</sup> the planning department produced a layout for the ZAPE area and part of Praia Grande. Submitted in late 1963, it comprises a street grid and array of building volumes, including an area allocated for a casino–hotel development approximately where the Hotel Lisboa Macau is located today. In 1966, Macao's gambling monopoly was granted to entrepreneur Stanley Ho and his new company Sociedade de Turismo e Diversões

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de Macau (STDM), partly due to his promise to evict the squatters then occupying the prime land of ZAPE and develop it following the masterplan. However, the entire situation was thrown into turmoil by what is known as the 123 Incident. On 3 December 1966, anti-government riots, inspired by the Cultural Revolution, led to the departure of many Portuguese (including Manuel Vicente, who went on to study at the University of Pennsylvania under Louis Kahn and Robert Venturi<sup>7</sup> thereby absorbing a mixture of geometric monumentality and postmodern symbolism that would later become the predominant architectural style of Macao).

Nonetheless, STDM quickly started construction on the Hotel Lisboa Macau to the design of Hong Kong-based architect Eric Cumine (1905–2002). Born in Shanghai, with Scottish–Chinese ancestry, Cumine was a graduate of the London Architecture Academy. By the time the hotel was completed, in 1970, a few adjacent buildings and streets had been implemented following the ZAPE masterplan. STDM then commissioned Cumine to make some revisions to the masterplan, including large-scale sports facilities and a temporary bull-fighting arena.

Eduardo Tavares da Silva, an ex-military engineer who was to become a central figure in many of these developments, arrived in Macao in 1969 and established an independent office that inherited several projects that had been postponed due to the 123 Incident. Taking the initiative to produce a masterplan for the entirety of Macao (which the Portuguese Overseas Ministry had long been promising but failing to do), Tavares set up a branch office with architects Maria João Eloi and Jorge Graça, then invited Portuguese architect Tomás Taveira to visit Macao and produce a study for urban development strategies at a fee of 80,000 patacas, a huge sum at the time.<sup>8</sup> Submitted to the governor in 1973, it contained only text, no drawings, but

included a proposal for a new university campus and the establishment of new business districts on the islands of Taipa and Coloane, in an attempt to decentralise Macao. This was immediately shelved, but Hong Kong-based architect Tao Ho was commissioned by the government to renovate the historic Dom Pedro V Theatre, so Tavares invited him to make preservation proposals for twelve other sites in Macao. Indeed, Tavares was actively trying to internationalise Macao's architectural culture. Tao Ho introduced Tavares to British architect Richard Rogers, and they took him on a tour of Macao to discuss future possibilities, but that also led to nothing.

At the request of Stanley Ho, Jon Prescott (1925–1995), a Hong Kong-based British architect, produced a new ZAPE masterplan in 1979, overseen from his Macao branch office led by Portuguese architect Eduardo Lima Soares (1945–2012).<sup>9</sup> Extending from the hotel to the reservoir, it comprised a street layout and regulations for building height, density, function, and morphology — mainly enormous commercial podiums supporting residential towers. None of this was implemented, though it had some influence on the areas later allotted for parks and public facilities, such as the Macao Forum. The plan also included a tunnel through Guia Hill, which was eventually completed in the 1990s.

Following the arrival of Portuguese architect Carlos Couto in 1981 to lead the government's urban planning department, the Prescott plan was revised by Eduardo Flores with the assistance of American architect Peter Seidel, both of whom were then working for Prescott. They retained the basic street layout but sliced through the podiums to create colonnade-lined pedestrian streets set at slight diagonals to the main grid, with some irregularities to preserve existing trees that they considered worth saving. They also proposed a hierarchy of building

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heights rather than the existing 76-degree setback regulation (which had been copied from Hong Kong). Most of these ideas were rejected by the government, which settled on a more conservative plan, but in any case, none of the ZAPE plans were ever gazetted in the *Boletim Oficial*, so they had no legal status. Building permits continued to be issued for projects that contravened the guidelines.<sup>10</sup> Once it became clear that the shops along the colonnaded pedestrian streets were not commercially successful (at first, anyway), developers simply refused to include them. Those colonnades that had been built were legally required to be decorative, not structural: as the reclaimed land continued to settle, the columns began to detach from the ground, leaving them visibly hanging from the cantilevered eaves above.

By the 1980s, the horticulture had mostly disappeared from ZAPE. A few more hotels were constructed by STDM, but they were unable to relocate the remaining squatters to clear all the land for development. The government and STDM procrastinated until Tavares went to the Guia Lighthouse and took panoramic photos of the entire ZAPE area, showing the extent of squatter dwellings and vegetable gardens. He gave copies to the government (recommending that existing squatter dwellings be catalogued and any new ones be demolished), to Chinese community leader Ho Yin, and Stanley Ho. More land was cleared, but even so, STDM held on to most of the empty sites in anticipation of rising prices, causing developers to demand real estate elsewhere. At the same time, the Secretary of Education was complaining about the lack of funding for schools, so Tavares (appointed by the governor to the Macao Legislative Assembly between 1979 and 1983) handed him a map of the Macao Peninsula on which he had scribbled dollar signs in the water adjacent to ZAPE, and declared that far more reclamation would be needed

to expand the territory and bring in more money. The government began producing plans for huge platforms of new land extending around the entire eastern coast. Jon Prescott, sponsored by Goodyear Investors, produced a proposal titled ‘Macau New Town’ for an area approximately where NAPE is located today, but containing mostly cultural facilities, and British practice GMW Architects (working for an unknown developer) designed a ‘New Bridge Neighbourhood’ of linked modernist slabs adjacent to the Hotel Lisboa Macau. None of these plans were implemented, but they no doubt inspired the increasingly ambitious proposals that were to follow.

### AREIA PRETA AND NOVOS ATERROS DO PORTO EXTERIOR (NAPE)

In 1975, Eduardo Tavares, on his own initiative, produced a model for the reclamation and development of Areia Preta, in the northeast of the peninsula, using a grid similar to historical Iberian cities. He presented it to the governor as an industrial and commercial centre that would foster entrepreneurial activities, modelled on Singapore. Tavares later took him on a tour of Singapore to show the intended outcome. The governor was sufficiently impressed to appoint four architects (Manuel Vicente, José Maneiras, Nuno Jorge, and José Pereira Chan) to design a masterplan for Areia Preta. It was summarily rejected by the investor, China Resources, a mainland corporation with offices in Hong Kong, because it contained more space for roads and plazas than buildings. They appointed British planning office Binnie and Partners to produce a new masterplan, which was approved but cancelled after the governor’s departure to Portugal. China Resources then abandoned the project, and the Areia Preta development was restarted by the new governor (Almeida e Costa) with a new investor (China Construction). In 1982, under the direction



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Fig. 1: Early sketch of NAPE and Praia Grande by Alvaro Siza (1983). Courtesy of P&T Group.

of Almeida e Costa, Carlos Couto, and Direcção dos Serviços de Solos, Obras Públicas e Transportes (DSSOPT, Land and Urban Construction Bureau) director Barreiros Cardoso, Areia Preta became one of the four government-sponsored international tenders: Avenida de Almeida Ribeiro (the historical centre), Areia Preta, Praia Grande, and NAPE.

Ten teams were invited to make submissions for NAPE, a development adjacent to ZAPE that was to contain a mixture of residential, commercial, social, cultural, and leisure facilities. The third prize was awarded to O.BS Arquitectos, the office of António Bruno Soares and Irene Ó. From 1978 to 1980 Bruno Soares worked in the department of public works, and O.BS had been involved

in the heritage committee, so their NAPE plan emphasised reconciliation of the contradictions between preservation and development. With reference to historical Portuguese cities, the central idea was to metaphorically ‘mirror’ places in the Macao Peninsula — street networks, public squares, building volumes, and so on — though in most cases the reflections were also enlargements because the older areas had not been designed for automobiles. The plan was ordered by a central axis and some secondary axes with many green areas, including most of the waterfront. The scale and layout of blocks were adjusted to create view shafts, particularly to allow visibility of the Fortress Mount and the Guia Lighthouse when arriving by sea.

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Fig. 2: First proposal for NAPE, Ferry Terminal, and Areia Preta (1984). Courtesy of P&T Group.

The second prize went to Manuel Vicente and Paulo Sanmarful. Their project was also a response to the existing situation, a sampling of elements from the traditional urban fabric of Macao and elsewhere in an attempt to create variety and diversity. With characteristic wit, Vicente spelled out ‘MACAU’ in the shapes of a cluster of buildings in a corner of the plan, the sloping roofs allowing them to be ‘read’ from the street.

The first prize went to an international team that named themselves Strategic Planning Group, coordinated by Tavares and comprising Palmer & Turner (architecture), Euroconsult (territorial analysis), Deloitte Haskins & Sells (real estate consulting), Maunsell Consultants Asia, Collier

Petty Chartered Surveyors, and Gabinete de Estudos Técnicos (infrastructural services). Strategic Planning Group also won the tenders for Avenida de Almeida Ribeiro and Areia Preta. Though these designs were implemented, they underwent radical changes between the 1982 tenders and the final approved versions.

The director of Palmer & Turner (now known as P&T Group) was Japanese–Canadian architect James Kinoshita, but Eduardo Tavares convinced him to bring in Álvaro Siza Vieira as a design consultant. Already an internationally noted architect, Siza was only ten years away from winning the Pritzker Prize, the highest award in the field of architecture. Having received Kinoshita’s approval, Tavares then went to Portugal to convince Siza to come to Macao. He agreed, with the proviso that he would be accompanied by Fernando Távora (1923–2005), his former professor and an expert on dealing with historical contexts, as well as the young Portuguese architects António Madureira and Eduardo Souto de Moura (the latter also a future Pritzker winner).

The Avenida de Almeida Ribeiro tender focused on heritage preservation and adaptive reuse of old buildings, partly because a construction boom (largely a consequence of increasing investment from China) was causing so many of them to be demolished. Távora focused on the heritage areas while Siza focused on the new expansions, but they engaged in productive discussions throughout. In fact, the principles of Siza’s large-scale urban proposals were based upon Távora’s typological and morphological analyses of the existing small-scale situation.<sup>11</sup>

Siza made many visits to Macao, during which he made sketches of the essential features of the urban fabric and the geography. While back in Portugal, he continued to draw from memory. Siza was then interested in traditional Chinese paintings and landscapes as expressions of human interventions in nature, such as terraced rice paddies, and his early

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sketches suggest a symbiosis of artificial structures and natural topography.

The basic design was set during an initial brainstorming session with the entire team. Siza proposed geometric platforms on the water, separated from the existing city by canals to preserve the profile of the coastline. His precedents were Iberian but not necessarily Portuguese. Though Portuguese colonial cities were typically located in steep, rugged territory and incorporated existing natural elements, as does Macao, Siza was being asked to design new urban areas on open, flat land. On a recent trip to South America, he had been impressed by Spanish colonial cities from the sixteenth century (contemporaneous with the Portuguese founding of Macao), which were typically set on open, flat land, and used precise rules for the street grid, invariably 144m square, and the distribution of activities. This same model had been used for the reconstruction of Lisbon after the 1755 earthquake and in Ildefons Cerdà's plan for the extension of Barcelona in 1859. Siza believed that the scale of the Iberian grid enabled a balance of specificity versus neutrality that had easily absorbed programmatic changes over the centuries. His reference was a newly published book<sup>12</sup> on Spanish colonial cities, provided to him by Eduardo Tavares.

Siza proposed very wide boulevards, and his sketches tested the effects of clashes between the regular grid and existing natural or artificial elements, thereby giving rise to what he called 'Small Broadways' (alluding to the superimposition of the diagonal line of Broadway on the orthogonal grid of Manhattan). Siza also made studies of the balance between the street grid and the eclectic architecture it would surely have to accommodate. In Távora's words, 'the force of form overcomes the uncertainties of the program'.<sup>13</sup> Asserting that Hong Kong Island can accommodate far higher buildings than Macao because the mountain backdrop is correspondingly

higher (Hong Kong's Victoria Peak is 554m above sea level, but the highest point in Macao is Guia Hill, only about 90m above sea level), Siza proposed height limits to avoid obscuring the hills.

Areia Preta is near an orthogonal grid expansion carried out in the 1940s, so the Strategic Planning Group developed a system of roads set on a 144m grid, with each building occupying a 120m square. The maximum site coverage was set at 75% and the maximum depth of the building volumes at 18 metres, thereby defining the minimum dimensions of the inner courtyards, of which 50% of the area was to be green space with direct access from the street. Though the project was similar to Tavares's proposal in 1975, the buildings were converted to mostly residential use.

Adjacent to the hotels and casinos of ZAPE, Siza proposed rectangular blocks with chamfered corners, 144m x 60m, which he considered to be a better fit for the dimensions of the new land and the greater programmatic variety it would contain, also allowing the possibility of covering an entire block with a single building. A height limit of 22 metres was set by calculating the quantity of floor area that had to be provided. Some grid sections were to be green areas, notably for the continuation of the ZAPE park (Comendador Ho Yin Garden) with a new linear strip (Dr. Carlos d'Assumpção Park) reaching the waterfront. The ferry terminal was designed as a long platform on piles, projecting at an angle that would give approaching ferries a direct view of Guia Hill and the lighthouse. Between NAPE and Areia Preta, in the approximate location of the current ferry terminal, there was to be a square platform for luxury housing and a recreational marina.

When the finalised NAPE plan was presented to the government in the summer of 1984, it met protests from the public and harsh criticism from many other architects, particularly those in the circle



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of Manuel Vicente (who publicly condemned it as a ‘Tibetan village’). The buildings and boulevards were considered too large for Macao, and the repetitive grid was too rigid, lacking the diversity of urban spaces purportedly appropriate to local life. Many of the architects in the P&T Group team privately agreed with these assessments of Siza’s design.

Nonetheless, the project was approved and the government awarded the tender for the first phase of reclamation in 1985. Stanley Ho then complained that two of his ZAPE hotels, set adjacent to each end of NAPE (the Lisboa and the Mandarin, now called the Artyzen Grand Lapa), would have their views blocked, and more importantly, their *feng shui* disrupted. He demanded that both ends of the projected reclamation be sliced away, making it more or less square. Intimidated by (or complicit with) Ho’s political and financial influence, the government requested a review of the plan at the reduced size, which was carried out by AisaConsult and submitted in 1987.

At P&T Group, the project was now being led by Portuguese architect Miguel Campina Ferreira, who arrived in Macao in 1984. He adjusted the first phase of construction to fit this revised area, leaving open the possibility of a second phase of reclamation that would return it to the original size.

Initially, NAPE land parcels had been sold at fixed prices, but after the reclamation began they were put up for auction. Prices escalated immediately, and speculators started to make absurd profits. The Chinese company in charge of the reclamation work had been given ownership of some of the blocks as partial compensation, and they began to ask for changes to the rules. Firstly, they insisted on raising the height limit, claiming that 22m-high buildings would not be commercially viable. Secondly, they asserted that Siza’s typology of perimeter slabs around street-level courtyards was inappropriate for the local market and asked to build the more

usual model of apartment towers atop podiums containing shops and car parking (in truth, they wanted all the regulations revoked, leaving open land to develop as they liked). The government saw the huge investment potential of NAPE and demanded the architects to find a solution that would provide more floor area, initiating a second review of the plan in 1989. Siza was against increasing the height of the buildings, but Campina argued that it was the only way to save the essence of the original project — that is, the grid and outdoor spaces. They grudgingly started to revise the plan, with Campina focused on the buildings and Siza on the public areas. Though NAPE was intended to introduce a new architectural and urban typology for Macao, Campina’s compromise entailed keeping the street layout while allowing the buildings to conform to existing Macao laws. This revealed the Achilles heel of Siza’s plan: the 24m-wide boulevards combined with the 76-degree setback regulation permitted the buildings legally to rise as high as 80m. Campina lifted the courtyards from street level to the tops of three-storey podiums and divided the perimeter buildings into two types: U-shaped residential slabs and rectangular commercial towers. The developers were still dissatisfied but no longer had grounds for complaint.

Even this huge increase in floor area was not enough. On the Christmas Eve in 1990, Campina received a phone call from a government official demanding that an entire extra row of buildings be added along the southern edge, replacing Siza’s broad waterfront park. Campina replied that he was not going to act based on a phone call and asked for the request in writing. He was informed that this phone call was all he would receive, and it was non-negotiable. The next day Campina wrote a letter setting out the changes as he understood them, which he faxed to the government for confirmation and Siza for approval. The extra row of buildings



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Fig. 3: Nam Van Lakes proposal, by Manuel Vicente (2003). Courtesy of VLB Arquitectura e Planeamento.

indeed replaced the park and also forced the entire street grid to be slid northward, narrowing the canal between NAPE and ZAPE from 80m to 12m. Siza was furious and his relationship with the government was irrevocably damaged, but contrary to rumours he never quit the project. The final plan was submitted in 1991, gazetted in the *Boletim Oficial*,<sup>14</sup> and thereupon legally enforced, at least for a few years.

### PRAIA GRANDE

Praia Grande Bay had long been a concern for the government. By the 1980s, tall buildings were starting to appear along the curving waterfront, with a concomitant increase in traffic that overloaded the streets, car parking, and drainage system, causing noxious smells at low tide — all good reasons for reclaiming the entire bay. In 1975, Eduardo Tavares

proposed to develop the stretch of Praia Grande between Boa Vista Hotel and Hotel Lisboa Macau, enclosing the bay with a tropical garden that sloped down to a new lake containing artificial islands, and lining the waterfront with cafes and boutiques. The government tender in 1982 asked only for the creation of a new freshwater lake, which is all that Strategic Planning Group proposed, thereby losing the tender to Manuel Vicente, whose design comprised a complex curvilinear geometry with many areas allocated for buildings. Upheavals in the government over the following years led to the cancellation of the entire Praia Grande project, but the sudden increase in land prices in the late 1980s revived interest in further expanding the waterfront. Under pressure from Ma Man Kei (1919–2014), a politician and entrepreneur with interests in the construction industry, the Macao government

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decided not to revive the Manuel Vicente project and instead opened a new tender for Praia Grande. This time the competition was won by P&T Group, working on behalf of Ma Man Kei. But a few days after the results were publicly announced, the project was suddenly and without explanation reassigned to Manuel Vicente, who was working on behalf of Stanley Ho. With STDM gaining the rights to develop the new land at Praia Grande, the *feng shui* problems at NAPE miraculously disappeared, and Ho gave his approval for NAPE to revert to its original size, with the proviso that STDM must also be given the rights to the extra land.

This triggered further conflict between Vicente and Siza. For Siza, the extra strip of land at the west edge of NAPE was merely the restoration of the original NAPE plan, whereas for Vicente it was a new development area under his jurisdiction. Vicente made several proposals for alternative street and block layouts, but finally, the government stepped in and determined that, though STDM owned the land, they had to follow the Siza grid. Vicente's plan for the rest of Praia Grande was published in the *Boletim Oficial* to put it unequivocally at STDM's disposal. As a pretext to make this seem part of a general government strategy and not favouritism toward a particular individual or group, the NAPE and Areia Preta plans were published in the *Boletim Oficial* at the same time.

A public-private entity called the Nam Van Lakes Corporation was established to administer development in Praia Grande, but the area languished for years. In 2003, Vicente was asked again to revise the design. Now working in a partnership with Rui Leão and Carlotta Bruni as VLB Arquitectura e Planeamento, he produced Nam Van Square adjacent to Macao Tower (designed by New Zealand architect Gordon Moller), as well as an urban park under the third bridge, which included an unbuilt proposal for a Dragon Boat viewing stand.

Eduardo Tavares, together with Peter Cookson Smith of URBIS, continued to make unsolicited, optimistic proposals for all of these areas, including a marina beside NAPE and a festival market near Praia Grande, neither of which were built, but ultimately inspired the creation of the Fisherman's Wharf tourist development, designed by Carlos Couto. Tavares also proposed four new islands between the peninsula and Taipa: an 'arts' island, an 'ecology' island, a 'spirituality' island (subdivided into four islets for Christianity, Buddhism, Hinduism, and a meditation centre), and an island for conventions and exhibitions, all of which remained unbuilt.

In 2001, with the imminent expiry of Stanley Ho's casino monopoly, the government decided that the bidding for gaming concessions would be opened to international corporations. Provisional licenses were issued to Las Vegas Sands, MGM, and Wynn in 2002, with the remaining unbuilt areas in NAPE proposed as the best locations for new casinos. That year Sheldon Adelson, chairman of the Las Vegas Sands Corporation, visited Macao together with Las Vegas architect Paul Steelman. They were shown the triangular stretch of the open water between the two roads at the east edge of NAPE, and Adelson immediately told Steelman he wanted a casino there within a year. Steelman was a little slow: though he and his colleague Steve Anderson produced the concept plans and renderings in one week, it was a full 16 months later that the Sands Macao opened, sitting on deep piles but contiguous with the reclaimed land of NAPE.

At the west side of NAPE, STDM built placeholder sheds on the 12 plots defined by the Siza street grid, but in 2004 these were consolidated into two huge lots. STDM leased one to MGM for a casino development under the control of Stanley Ho's daughter Pansy and sold the other to Steve Wynn for USD900 million. Over the next few years, the NAPE masterplan regulations (in terms of



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Fig. 4: COTAI model by Eduardo Lima Soares (1992). Courtesy of Eduardo Lima Soares.

scale and programme) were repeatedly contravened by the constructions of the Wynn (2006), MGM (2007), StarWorld (2007) and L'Arc (2009) casinos. In response to public outcry, the government simply repealed the masterplan, then symbolically ended the autonomy of NAPE by refilling the canal dividing it from ZAPE, turning it into a long, thin public park called Jardim das Artes.

#### COTAI (ATERROS TAIPA-COLOANE)

The other major reclamation project initiated in the 1990s was Cotai, six square kilometres of new territory that merged the islands of Taipa and Coloane into a single landmass. The islands were first physically connected in 1968 by a two-kilometre-long causeway called the Estrada do Istmo (Isthmus Road), which was widened over the decades into a multilane highway. In 1989, Eduardo Tavares asked Campina and P&T Group to design a landfill between Taipa and Coloane that included a new institution he called Macao Institute of Technology (MIT). Nothing immediately came

of this, though the MIT plan might be seen as the precursor to Macau University of Science and Technology (MUST). In 1992 the government launched a tender overseen by the newly established Gabinete para o Apoio ao Desenvolvimento dos Aterros Taipa-Coloane (GADA) to select the team that would plan a new town named Nova Cidade de Cotai, intended to hold 150,000 residents. Second place went to Manuel Vicente, but the winner was a team led by Eduardo Lima Soares, which included his former employer Jon Prescott and the engineers of AsiaConsult. Prescott was the main driver of the design, and all the drawings were done in his office, coordinated by his employee Mário Neves.

After an initial presentation to the government, which requested substantial revisions, the final design was submitted in 1994. The scale model shows mainly podium-tower typologies, with car parking located underground. To the east is an infrastructural zone incorporating the airport, which was then under construction, a new passenger ferry terminal, and a container port. A strip of parkland

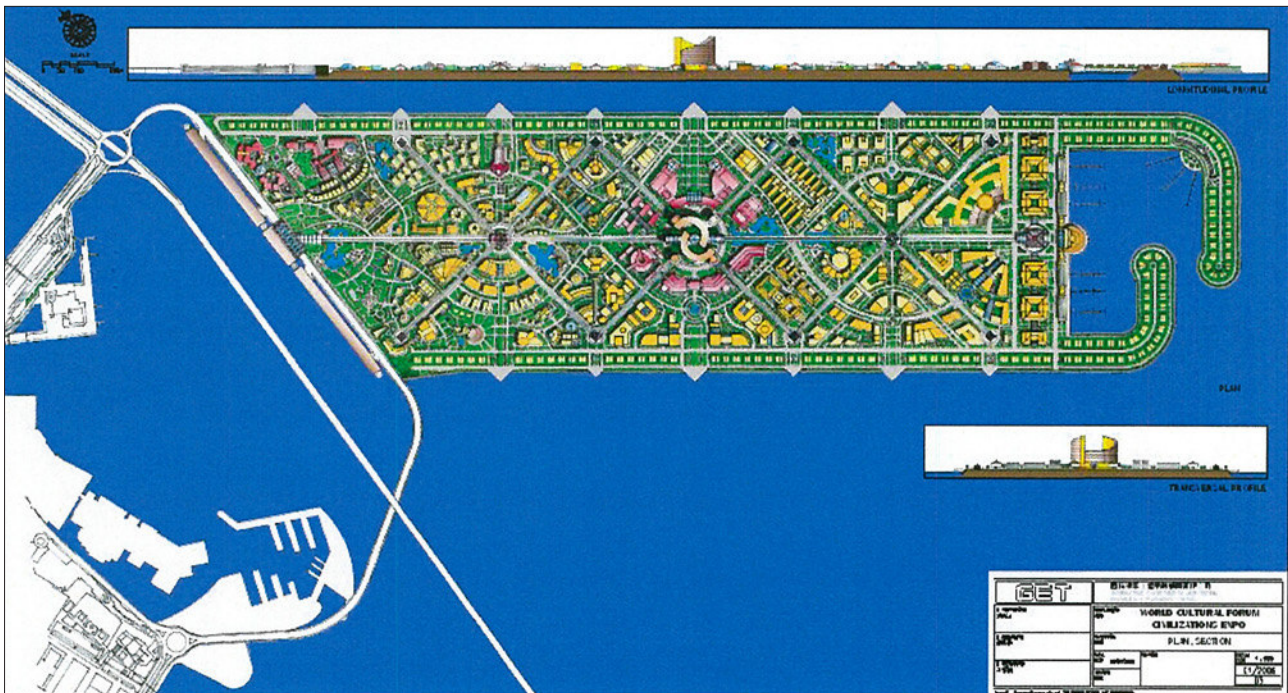


Fig. 5: Eduardo Tavares/GET and Peter Cookson Smith/URBIS, World Cultural Forum Civilizations Expo proposal (2005). Courtesy of Eduardo Tavares.

separates this from the central zone, which contains relatively large building volumes for housing and retail. To the north are smaller building volumes and another green area adjoining Taipa. Lima Soares also proposed renovating five early-twentieth-century houses on Taipa's Avenida da Praia (which was carried out in 1999, to the design of architect Maria José de Freitas). To the west, adjacent to the Lotus Flower Bridge linking Cotai to Hengqin Island, there was to be a tourist complex named 'Mega City', which contained a hotel and convention hall, a theatre, a swimming pool, a golf course and tennis courts, not to mention an artificial ski slope and an artificial beach.

For the inauguration of Macau Airport in 1995, Portuguese President Mário Soares made a state visit, during which Stanley Ho took the opportunity to present him a scale model of his scheme for Cotai: a leisure zone containing ten hotels, an exhibition centre, and a theme park.

However, an official government publication in 1999 continued to endorse the Lima Soares plan:

[Translation by author] *The dynamic development of the territory imposes the need to develop, in a planned way, new urban spaces that not only meet future urban needs but also allow the implantation of the collective equipment required for the qualification of the social level of the population and that cannot be accommodated by the geographical configuration of the territory. [...] The inter-island area of Taipa-Coloane is the only one in the territory that has the configuration of local characteristics and location of facilities necessary for landfills to satisfy those purposes.*<sup>15</sup>

Nonetheless, after the handover in 1999, the new SAR government began to think about turning Cotai into a casino–resort destination. On 18 July



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2001, Ao Man Long, Secretary for Transport and Public Works (later incarcerated for corruption), announced a revision of the Cotai masterplan to be overseen by engineer António José Castanheira Lourenço, head of Gabinete para o Desenvolvimento de Infra-estruturas (GDI, successor to GADA). The design team — Eddy Wong (Eddie Wong and Associates), Luís Sá Machado (Machado Perry & Bragança, Arquitectos), and AsiaConsult — completed the revised plan in six months. Similar to the way in which NAPE had been modified, secondary roads were erased to create larger lots for integrated resorts. Most of the housing was cancelled, and the planned hospital relocated to Coloane, with the revised plan justified in a government publication in 2001:

[Translation by author] *The basic concepts of this reformulation are led by a perspective of sustained growth in the Macao SAR economy, through a process of outsourcing with a strong investment in tourism, public works, transport, and infrastructure, meeting needs in terms of education, social, sporting, cultural and leisure facilities, and investing in environmental and landscape protection to permit a good quality of life for the population of the Macao SAR.*<sup>16</sup>

The government presented this new plan to the international gaming licensees, but the only one that shows serious interest was Las Vegas Sands. Having decided on the location of the Sands casino in NAPE, Sheldon Adelson visited the swampy surroundings of the Estrada do Istmo and envisaged a magnificent avenue lined with luxury hotels and casinos, to be known as the Cotai Strip in explicit homage to the Las Vegas Strip. He commissioned US architects Skidmore, Owings & Merrill (SOM) to produce a masterplan in collaboration with

landscape architect EDAW (EDAW was purchased by AECOM Design + Planning in 2005, and fully merged in 2009). Locally, the work was coordinated by Campina, who was now working at MPS, a company he cofounded in 1998. As well as guidelines for building volumes and setbacks, the masterplan emphasised the provision of outdoor public spaces for movement, based on the (mistaken) assumption that visitors would enjoy walking along the strip. There were to be three major public spaces: Water Park, Tropical Garden and Grand Falls, but none were built. In 2007, The Venetian was the first Cotai casino to open, but it turned out to be the only one that followed the guidelines.

In 2005, just as the Cotai reclamation was completed and the Cotai Strip was beginning to take shape, Eduardo Tavares proposed a World Cultural Forum on an enormous strip of land extending into the Pearl River Delta, just north of NAPE. Conceived as a microcosm of human civilisation, the masterplan was a utopian diagram of East meeting West, and a deeply optimistic statement about what Macao might have been. Needless to say, it remains unbuilt.

## MIRAGE CITY

*A map of the world that does not include Utopia is not worth even glancing at, for it leaves out the one country at which Humanity is always landing. And when Humanity lands there, it looks out, and, seeing a better country, sets sail. Progress is the realisation of Utopias.*

Oscar Wilde<sup>17</sup>

In the mid-1990s, at the same time as NAPE was being built and Cotai was being conceived, Japanese architect Arata Isozaki was commissioned by the municipal government of Zhuhai (the Special Economic Zone of Mainland China that borders

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Macao) to produce a masterplan that would turn the southern part of Hengqin Island into a centre for international exchange. After visiting the site, Isozaki decided instead to propose reclaiming a new island off the coast, which he titled ‘Mirage City’ and described as ‘a Utopia, because a city on the sea evokes a world detached from contemporary political institutions and social conventions’.<sup>18</sup> He intended to avoid a rigid masterplan, instead using a process of discontinuous layering in which each successive intervention reinforces or dilutes the preceding ones.

The elliptical shape and main axes of the island were established using *feng shui* principles and connected with Hengqin Island by two bridges in the configuration shown in the frontispiece of Thomas More’s *Utopia* (1518). The layout of Beijing’s Forbidden City was superimposed on the island’s north–south axis to suggest a central business district. Isozaki also experimented with primitive parametric software, superimposing a web of vectors to create a layout of streets and plazas, and using a genetic algorithm to generate a pattern of building density. His architectural prototypes drew on principles and prototypes he found in China, including traditional typologies of circular and rectangular courtyard housing, and even houseboats.

Isozaki attempted to complicate or attenuate his authorship in various ways. For example, he superimposed the *Campo Marzio of Ancient Rome* (1762), drawn by eighteenth-century Italian printmaker Giovanni Battista Piranesi (1720–1778), on the island to subdivide it into building lots on which 48 international architects were invited to place their designs. He also produced an exhibition in which 12 guest architects and artists were commissioned to produce their masterplans on duplicates of Isozaki’s model, while visitors were encouraged to physically modify another model in the gallery.

The project was never implemented (Isozaki departed once it became clear that he was expected to find investors as well as design the project), though the profile of the island is included in *21<sup>st</sup> Century Macau City Planning Guideline Study*, an independently produced document supervised by Chinese engineer Chui Sai Peng (head of Chui and Associates) and Zhao Bingshi (Dean of City Planning at Tsinghua University).<sup>19</sup> Chui himself produced multiple proposals for southern Hengqin Island, but following an international competition, the commission was given to Australian architecture office Hassell. The design comprises a set of interconnected islands (the basic planning principle is that every point should be no more than five minutes away from the waterfront) totalling 17 square kilometres of business and resort zones. Land reclamation was expected to be completed in about five years, and the rest of the plan was to have been executed incrementally, but again it remains unbuilt.

## INCONCLUSION

[Translation by author] *It’s almost a theme park in the city. [...] I think Macao is a super-stimulating place. One turns a corner and is in another world, moving from the centre to the suburbs.*

Manuel Vicente<sup>20</sup>

This research arose out of a fascination with the special, if not unique, characteristics of Macao, which dates to my first visit to the region. In 1996, three years before the handover of Macao, I travelled across the Pearl River Delta, starting from Hong Kong, moving up through Shenzhen to Guangzhou, then down the other coast to Zhuhai and across the border into Macao. NAPE was then under construction, and it was an astounding sight: a new urban district taking shape on the water.

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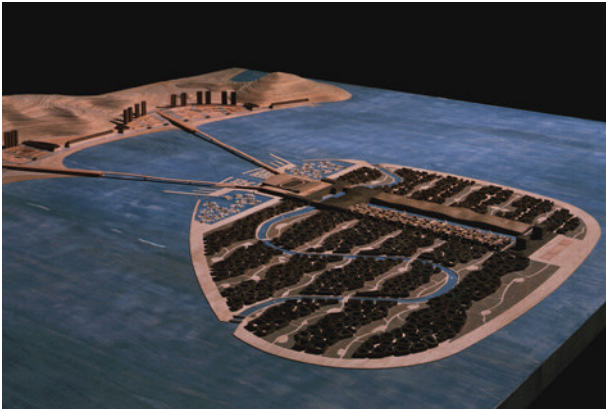


Fig. 6: Mirage City model by Arata Isozaki (1995). Courtesy of Arata Isozaki Atelier.

The level of ambition, and the money available to realise that ambition, immediately showed me that Macao could be a laboratory for radical experiments in urban design, literally based on the constant creation of new land. Witnessing the compromises and unfulfilled hopes for NAPE, and seeing the various proposals for the development of new landfills over the following decade eventually led to tracing their history back to the earliest days of Portuguese settlement in Macao.

Rather than a layered accumulation of buildings and public spaces within a defined territory, the growth of Macao over its five-century history has seen it gradually expanding into the Pearl River while simultaneously merging into a physically continuous landmass. In the process, it has become a patchwork of distinct urban conditions: the baroque axes and plazas of the Portuguese influence in the city, the labyrinthine alleys and patios of the Chinese neighbourhoods, the parallel strips of the waterfront warehouses and factories, the gridded and colonnaded high-rise commercial districts, the concentric podium-and-tower luxury housing projects, and the hermetic mega blocks of the integrated resorts. As growth rings on a tree trunk, these neighbourhoods may be physically contiguous, but they reflect environmental shifts and

discontinuities during the city's growth. The streets of Macao are consequently less a visual cacophony of scales, styles, functions, and periods than they are a set of relatively coherent neighbourhoods separated by abrupt, almost cinematic transitions: jump cuts, zooms, pans, split-screen juxtapositions, and multiple exposures.

Whether ambitious policies to regain economic superiority over Hong Kong, schemes to enrich rival developers and satisfy the egos of rival architects, sincere attempts to relieve congestion in Macao's old residential neighbourhoods and keep pace with immigration-fuelled population growth, or quixotic, visionary projects to create new worlds, invariably the original intentions of these land reclamation projects have compromised or negated by the exigencies of politics and economics. This is not necessarily a bad thing. The endless struggle between creative inspiration and commercial pressure is what gives vitality to any metropolis, and results will always balance economic success against civic amenities and environmental quality.

With a gambling industry that is many times more profitable than that of Las Vegas, and greater financial reserves than Switzerland, Macao today has the ability and freedom to speculate on (and realise) new types of urban life. However, the speed of development is causing recent history — which includes the unbuilt as well as the built — to be forgotten or overlooked. Macao still has the potential to become an urban paradigm for the region, if not the world, but conjectures on its possible futures can and should learn from its possible pasts. **RC**

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## NOTES

- 1 See Adolpho Loureiro, *O Porto de Macau: Ante-Projecto para o Seu Melhoramento* (Macao: Imprensa da Universidade, 1884).
- 2 See Hugo de Lacerda, *Macau e Seu Futuro Porto* (Macao: N. T. Fernandes e Filhos, 1922) and *Apointamentos Gerais sobre as Obras dos Portos de Macau* (Macao: Direcção das Obras dos Portos, 1927).
- 3 Hugo de Lacerda, “A Valorização do Nôvo Porto de Macau como Base de Maior Ressurgimento da Colónia,” Congresso Colonial Nacional, Lisbon, 9 April 1930.
- 4 See Manuel Teixeira, *Marinheiros Ilustres Relacionados com Macau* (Macao: Centro de Estudos Marítimos de Macau, 1988).
- 5 See Geoffrey C. Gunn, ed., *Wartime Macau: Under the Japanese Shadow* (Hong Kong: Hong Kong University Press, 2016).
- 6 Leopoldo de Almeida, “Notas de Uma Viagem a Macau,” *Revista Arquitectura*, vol. 3, no. 84 (November 1964): 131–138.
- 7 See Raquel Ochoa, *Manuel Vicente: A Desmontagem do Desconhecido* (Macao: Instituto Internacional de Macau, 2017).
- 8 Maria Calado, Maria Clara Mendes, and Michel Toussaint, “Macau: Memorial City on the Estuary of the Pearl River,” *Review of Culture* (English Edition), no. 36–37 (1998): 111–197.
- 9 See Jon Prescott, *Macaensis Momentum: A Fragment of Architecture. A Moment in the History of the Development of Macau* (Macao: Hewell Publications, 1993).
- 10 Mário Neves, “Entrevista com Jon Prescott,” *Arquitectura: Revista da Associação dos Arquitectos de Macau*, no. 4 (July/August 1992): 30–35.
- 11 Angelillo António, “Plano de Urbanização de Macau: Descrição de Álvaro Siza e Fernando Távora,” *Architècti*, no. 5 (July 1990): 22–29.
- 12 See Dora P. Crouch, Daniel J. Garr, and Axel I. Mundigo, *Spanish City Planning in North America* (Cambridge, MA: The MIT Press, 1982).
- 13 Peter Testa and Peter Brinckhert, “Il Piano di Macao: Progetti di Álvaro Siza Viera,” *Casabella*, vol. 53, no. 559 (July/August 1989): 4–26.
- 14 Governo de Macau, *Boletim Oficial de Macau 2.º Suplemento* (18 April 1991).
- 15 See Gabinete para o Apoio ao Desenvolvimento dos Aterros Taipa-Coloane, *COTAI, a Nova Cidade no Território de Macau: Futuros Aterros Inter-Ilhas Taipa-Coloane—Plano de Urbanização, Ligações Rodo e Ferroviárias à RPC* (Macao: GADA, 1999).
- 16 See Gabinete para o Desenvolvimento de Infra-estruturas, *Reformulação do Plano Director de COTAI* (Macao: GDI, 2001).
- 17 Oscar Wilde, “The Soul of Man Under Socialism,” *Fortnightly Review*, no. 290 (February 1891): 292–319.
- 18 Akira Asada and Arata Isozaki, “Haishi Jimua,” in *Anywise*, ed. Cynthia Davidson (Cambridge, MA: The MIT Press, 1996), 24–31.
- 19 See Lam Iok Fong, ed., *21世紀澳門城市規劃綱要研究 21<sup>st</sup> Century Macau City Planning Guideline Study* (Macao: Fundação para a Cooperação e o Desenvolvimento de Macau, 1999).
- 20 Manuel Vicente, “Os Olhos de Manuel Vicente,” *Revista NU*, no. 16 (2004): 18.

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