就文件第17頁之問題，本人意見如下：

1. 現有（之前）之整體排污計劃，已集中於昂船洲，在設備/金錢/…等其他可行研究，相信已作出最佳選擇…
2. 就如此巨型工程，分成兩階段是否足夠？
3. 香港是一個十分現實的地方，支付較高的排污費是代表什麼價錢，回報是什麼？我本人亦贊成花費少許作環保但不代表一個高昂的數字…

其他意見：

- 文件中提及很多數字，是否代表我們將來的排污處理合乎國際標準或更好呢？
- 香港長遠會否成為環保城市？
- 香港實施的方案在其他國家是否有案例？
- 工程完成後，小市民估計要負擔多少費用？
- 污水處理後之廢物，會否循環再用（轉化肥料？）或轉化無毒廢物？
- 此計劃後是否有其他計劃？或更長遠目標？
- 此計劃有否考慮將來增長，增長多少？
- 考慮如何開始教育下一代及改變(善)小市民之生活習慣。
- 是否將來在樓宇之設計/城市規劃開始，排污（如雨水渠與污水渠之錯接…？），在屋邨層面開始淨化/再用水，如簡單過濾雨水渠並再用作林木灌溉。
- 聽說「加州花園」是一水循環再用屋苑，可否參考/效法呢？

Samuel Chan. 2/9/2004

我們的維港
珍貴的天然資源

全港市民以及政府為改善維港水質共同付出的努力已見成果。「淨化海港計劃」第一期於2001年年底全面啟用，每日處理140萬立方米以上的污水，從而截除600公噸以往直接排入海港的污水淤泥，令整體污染水平下降，維港水質有所改善。

然而，這並未足夠。從港島北區及西區排放出海的污水，實際上仍是未經處理；另一方面，需要處理的污水量亦隨着人口發展而不斷增加。政府一直致力改善海港一帶的水質和環境，要達到此目的，我們必須全面落實一套綜合污水系統，以高效率、符合成本效益及持續環保的方式收集及處理海港一帶的污水。

這正就是推行下一期「淨化海港計劃」的目標。港府現正就第二期計劃篩選了一個較可取的方案，以進一步改善維港水質。這計劃分兩個階段進行，共耗資約200億元，將提供額外設施，把海港一帶的污水輸往昂船洲作化學處理和消毒；在第二階段計劃落實後，更會包括生物處理。

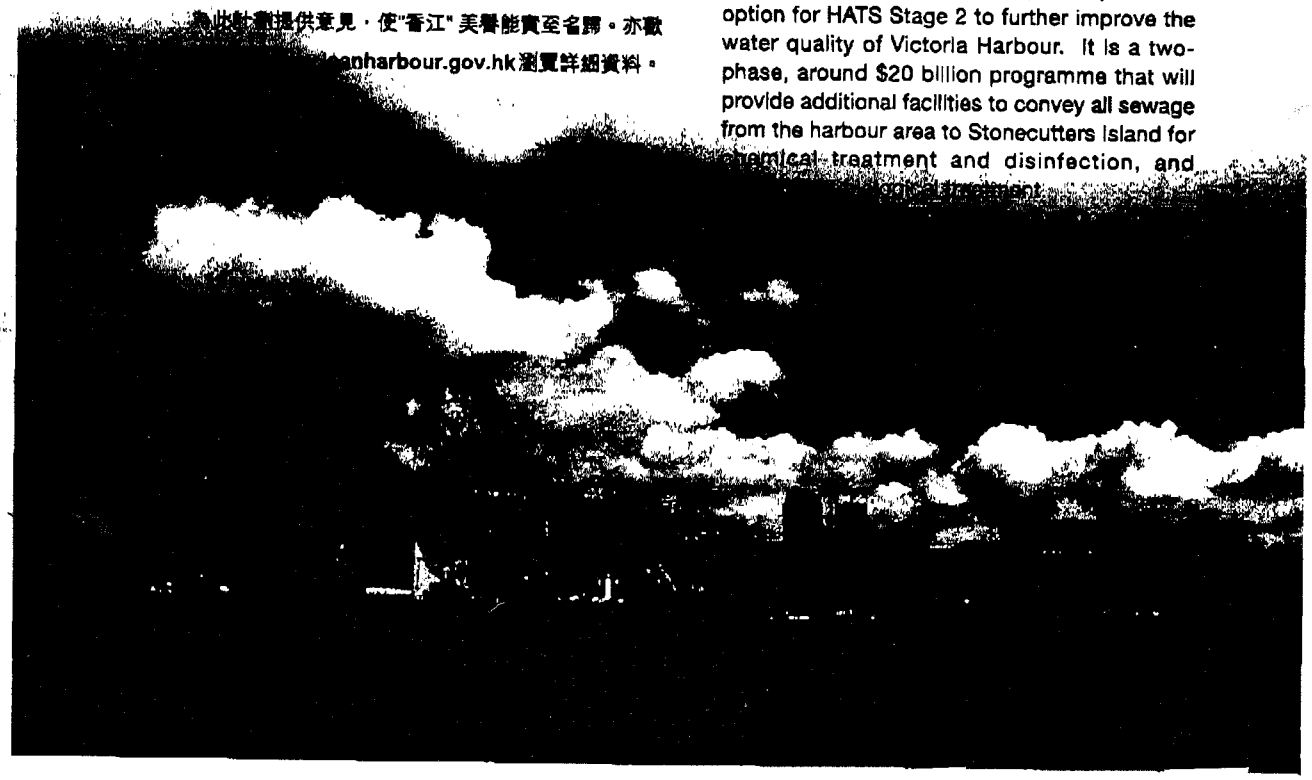
「淨化海港計劃」是本港歷來最重要的環保項目之一，必須得到公眾的全力支持才能順利推展。本文件扼述「淨化海港計劃」第一期的成果，及就第二期計劃所提出的首選方案。在此我們邀請大家共同參與，為此計劃提供意見，使"香江"美譽能實至名歸。亦歡迎瀏覽www.cleanharbour.gov.hk瀏覽詳細資料。

Our Harbour
Our Heritage
Our Asset

The combined efforts of the people and the Government of the Hong Kong SAR to improve water quality in Victoria Harbour are paying off. Stage 1 of the Harbour Area Treatment Scheme (HATS) was fully commissioned in late 2001. It provides treatment for some 1.4 million cubic metres of sewage daily and is removing 600 tonnes of sewage sludge per day that were previously discharged directly into the harbour. Overall pollution levels are down and water quality has improved.

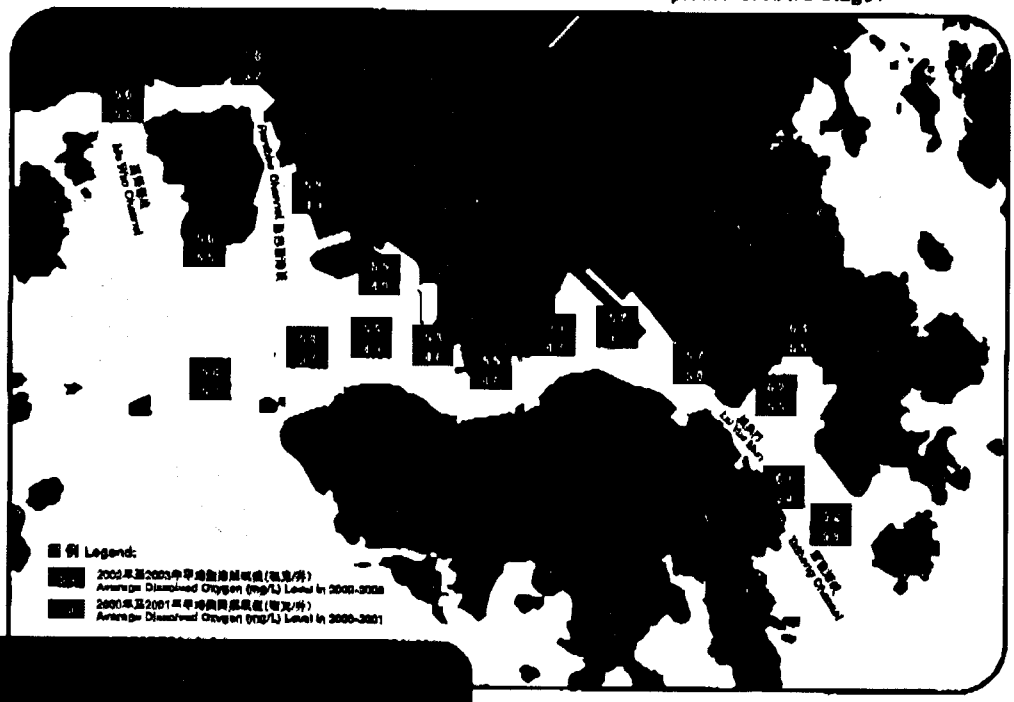
But more needs to be done. Sewage generated on the northern and western sides of Hong Kong Island is still discharged virtually untreated into the harbour. Future population growth in the harbour area will further increase the amount of sewage requiring treatment. The Government is committed to improving the water quality and the environment of the harbour area. To do this, we must fully implement an integrated sewage system that will collect and treat all of our wastewater from the harbour area in an efficient, effective and environmentally sustainable manner.

This is where the next stage of HATS comes in. The Government has developed a preferred option for HATS Stage 2 to further improve the water quality of Victoria Harbour. It is a two-phase, around $20 billion programme that will provide additional facilities to convey all sewage from the harbour area to Stonecutters Island for chemical treatment and disinfection, and



溶解氧值於「淨化海港計劃」第一期完成後有所增加

The Dissolved Oxygen Level has increased since the completion of HATS Stage1



為何需要開展第二期計劃？

雖然維港中部及東部的水質明顯好轉，甚至遷至石澳海灘的水質亦見改善，可是維港西部水域，尤其是荃灣一帶泳灘的水質，仍然受到自昂船洲污水處理廠所排放的大量廢水(經化學處理但未有消毒)所影響。此外，海港的水質亦因港島其餘地區每日排放約45萬立方米未經有效處理的污水而受到威脅。顯然，這情況是不可接受的。故推行「淨化海港計劃」第二期，以收集並妥善處理這些污水，是絕對必要的。

此外，我們亦需要及早規劃未來。現時的規劃數據顯示，整個「淨化海港計劃」污水集水區內的人口會由現時的450萬最終增至超過600萬。即使昂船

Why Stage 2?

Whilst remarkable water quality improvements have been seen at the middle and eastern areas of the harbour, with benefits reaching as far as Shek O Beach, the western harbour, notably in the area of the Tsuen Wan beaches, is still subject to the impacts of the large volume of treated effluent (without disinfection) discharged from the Stonecutters Island Sewage Treatment Works. The harbour is also affected by some 450,000 cubic metres of virtually untreated

費用

「淨化海港計劃」是本港一項主要的基礎建設投資。已啟用的第一期的建造費用約為82億元，以最大設計流量營運的話，每年經常性費用約為3.2億元。

有關第二期工程的費用，以採納首選方案（即方案甲）計算，建造費用估計約需191億元，而營運及維修費用 — 即經常性費用 — 則估計為每年12億元。

分階段進行

我們的評估顯示，將「淨化海港計劃」排放的所有污水進行化學及生物處理，對保護維港水質至為重要。然而，在考慮以下各項因素後，包括：

- 難以確定維港地區人口是否會按預期的高速度增長；
- 建造和營運大型生物污水處理設施的開支龐大，並且涉及額外土地；及
- 整個維港地區收集的所有污水，以化學處理和消毒，便能夠達到大部分的維港水質標準，

我們建議分兩個階段進行「淨化海港計劃」第二期工程。

另外，從落實工程的角度考慮，要在已規劃作其他用途的土地下興建一所超級規模的地下生物污水處理廠，需要處理各樣複雜的協調問題。

在第一階段（即「淨化海港計劃」第二期甲工程），我們計劃興建多條污水隧道，以便將港島北及西區的污水輸往昂船洲污水處理廠。我們也會擴建該廠，將整個「淨化海港計劃」覆蓋範圍內的所有污水，集中進行化學處理，我們同時會加快興建污水消毒設施。

Cost

The HATS programme is a major infrastructure investment for Hong Kong. The capital cost of the first stage of HATS was $8.2 billion and its recurrent cost is some $320 million each year at full capacity.

For HATS Stage 2, the estimated construction cost of Option A - the capital cost - is $19.1 billion, and the estimated operation and maintenance cost - the recurrent cost - is around $1.2 billion each year.

A Phased Approach

Our assessments have shown that chemical and biological treatment of all HATS sewage is essential for protecting the water quality of the harbour in the long term. However, in view of the following:

- the uncertainties about a rather high rate of future population build-up in the harbour area;
- the biological treatment plant will be very expensive and require additional land allocation; and
- the provision of chemical treatment and disinfection for the whole HATS catchment will enable us to achieve most of our water quality criteria,

we propose to build HATS Stage 2 in two phases.

Moreover, from the implementation angle, building a mega-scale biological treatment plant underground with other land uses above ground would also be very complex due to the presence of many interface issues.

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之前之建造，这方法是否有害？

歷史告訴我們……？

落實「淨化海港計劃」第二期的時間表

如獲公眾的支持，第二期甲工程的設計工作可於2005年展開，以便各項主要建造工程可於2007/08年度動工。按照這個時間表，第二期甲工程中的污水處理廠會大約在2011/12年度竣工。項目中較艱巨的隧道鑽挖工程預期要到2013/14年度才能完成，屆時第二期甲計劃的效益將可全面發揮。此外，我們亦會研究加快第二期甲部份污水消毒設施的工程提前在2008/09年落成啟用，使海港水質盡快得到改善，讓荃灣區的海灘可以重新開放。至於第二期乙工程，我們會把各項籌備工作在第二期甲工程進行期間完成，以縮短落實建造所需的時間。

Implementation Timetable

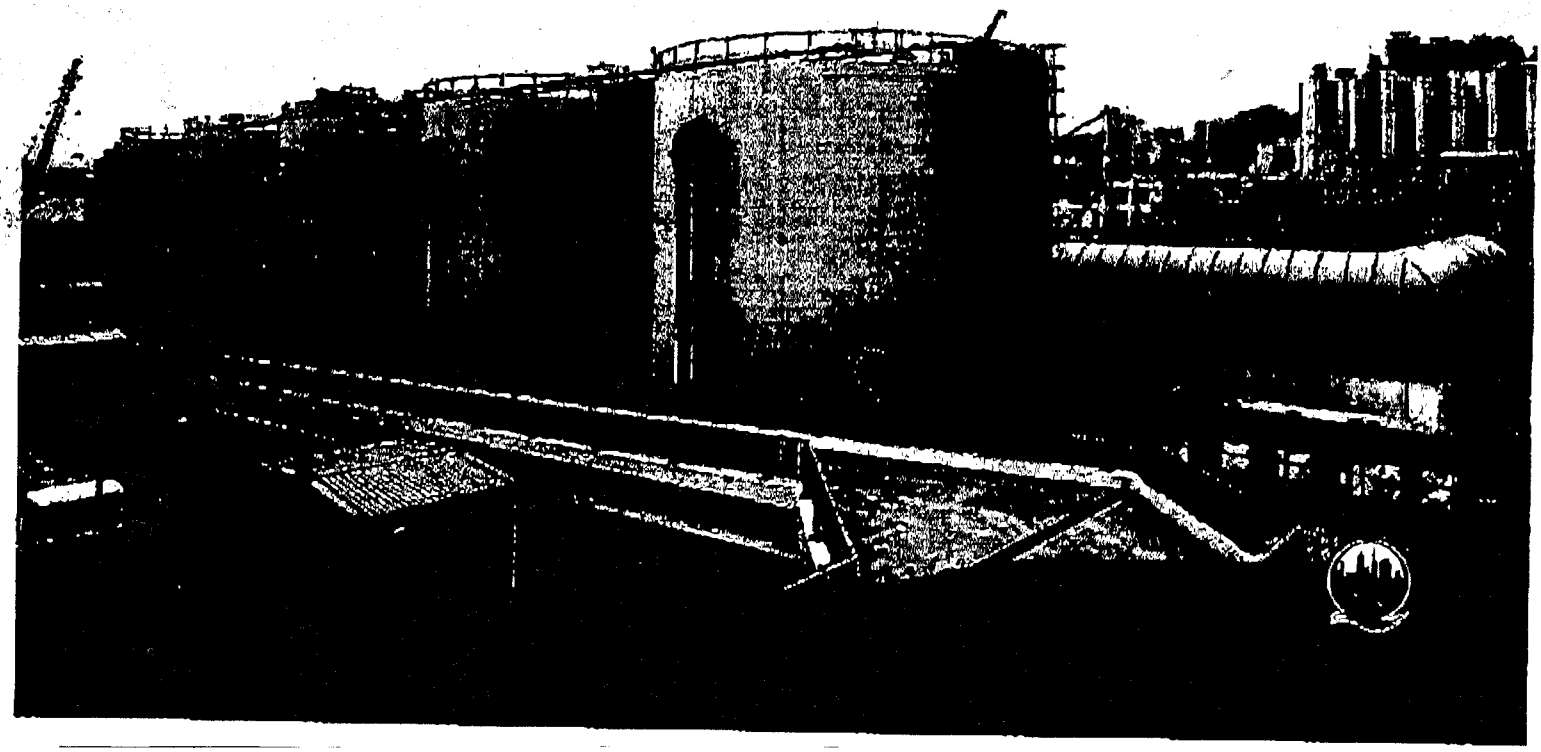
With the support of the community, the design of HATS Stage 2A could start in 2005 to enable the major construction works to commence in 2007/08. Such a timetable will enable us to complete the Stage 2A treatment facilities around 2011/12 . The more challenging tunneling works under Stage 2A are expected to be completed by 2013/14 to bring about the full benefits of Stage 2A. Moreover, we will explore ways to expedite part of the disinfection facilities of Stage 2A for completion by 2008/09 to bring early improvement to the harbour water quality and to enable re-opening of the Tsuen Wan beaches. As for Stage 2B, with the completion of all the preparatory work during the implementation of Stage 2A, we will be able to shorten its delivery time.

第二期帶來的效益

在第二期工程落成啟用後，維港水質會顯著改善。污水的處理程度經大幅提高後（即引進生物處理、去除營養物程序及污水消毒），污水中接近90%的有害污染物會得到有效處理。第二期甲及第二期乙工程會有助逐步提高海水的溶解氧（海洋生物賴以為生的要素）。第二期甲及第二期乙工程將分別使海水的溶解氧量上升5%及進一步上升5%。維港內溶解氧量的

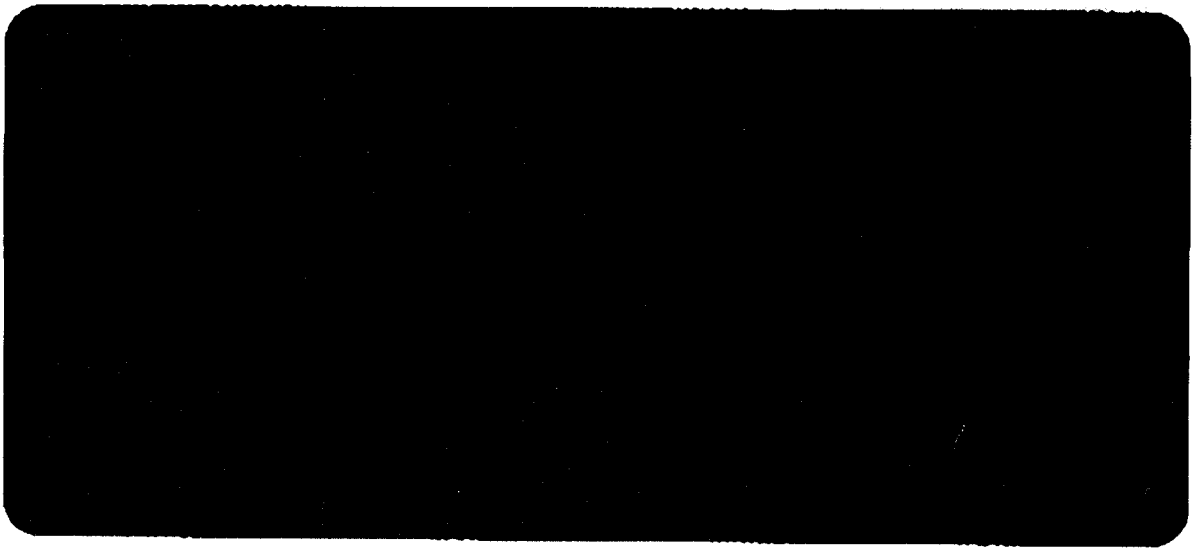
Benefits

The implementation of HATS Stage 2 will lead to significant improvement in the harbour water quality. The very high levels of treatment (with biological treatment, nutrient removal and disinfection) could remove up to 90% of harmful pollutants in the sewage. Commissioning of HATS Stage 2A and 2B would incrementally increase the dissolved oxygen level (vital for marine life) in the harbour waters by 5% and a further 5% respectively. The compliance rate for the dissolved oxygen criteria will increase to 100% on completion



水質標準，預計在第二期工程完成後，達標率會升至100%。僅第二期甲工程內的污水消毒設施，便已能消除污水中逾99.9%的大腸桿菌，使荃灣多個泳灘可以重新開放，供市民暢泳。

of Stage 2. The provision of disinfection under Stage 2A alone will remove over 99.9% of the sewage bacteria from the sewage, allowing the Tsuen Wan beaches to be re-opened for swimming.



污染者自付原則

每一項治理污染的工程通常都所費不菲，而「污染者自付」被公認是一個釐定如何攤分費用的公平原則。要處理我們每日所產生數以百萬噸計的污水，落實「淨化海港計劃」第二期是有必要的，但在每年的營運及維修上，這計劃亦會帶來額外的開支。基於「污染者自付」原則，分階段落實「淨化海港計劃」第二期的各項設施後，排污費將需要作相應調整。

The Polluter Pays Principle

Tackling pollution comes at a cost and the "Polluter Pays Principle" has been widely accepted as a fair means of sharing out the cost. The implementation of HATS Stage 2, which is essential for handling the millions of tonnes of wastewater, will result in additional recurrent expenditure for the operation and maintenance of the scheme. In line with the "Polluter Pays Principle", adjustment of the rates for sewage charges will be necessary in conjunction with the phased commissioning of the various components of HATS Stage 2.