Submission
No 36

INQUIRY INTO A SUSTAINABLE WATER SUPPLY FOR SYDNEY

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Subject:

Summary

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14 February 2006

Ms Beverly Duffy
Director
General Purpose Standing Committee No 5
NSW Parliament
Macquarie Street
Sydney NSW 2000

Dear Ms Duffy

MARRICKVILLE COUNCIL SUBMISSION TO THE NSW PARLIAMENTARY INQUIRY INTO A SUSTAINABLE WATER SUPPLY FOR SYDNEY

At its meeting in 6 February 2006 (Meeting no. 01/06, Item PS 3) Marrickville Council resolved to adopt the attached submission in relation to the NSW Parliamentary Inquiry into a sustainable water supply for Sydney.

Please find attached Marrickville Council's submission. For further enquiries please contact Nell Graham, Acting Manager Environmental Services, on 9335 2198.

Yours faithfully

Candy Nay
General Manager

Submission by Marrickville Council to the Parliamentary Inquiry into a Sustainable Water Supply for Sydney

1. Introduction

Marrickville Council is pleased to present a submission to the Parliamentary Inquiry into a sustainable water supply for Sydney.

This submission outlines the issues that Council sees as integral to any discourse on sustainable water planning, including water scarcity, the pollution of waterways and global warming, and proposes a range of diverse solutions that address these issues. It is also in response to the likely impacts that Council and its community face should the proposed Kurnell desalination plant proceed, a strategy that Marrickville sees as unsustainable and that is opposed by the community.

Of major concern are potential impacts of the desalination plant and the construction of its infrastructure on the Cooks River and foreshores. Council is also disappointed with the lack of information provided about the proposed desalination plant such as pipeline routes and methods of construction, and the inadequacy of the environmental assessment process.

Council strongly supports alternatives to desalination, particularly those that encourage community participation in decision making and planning, and is involved in a number of sustainable water initiatives.

1.1 The Marrickville Area

The Marrickville local government area was created in 1948. It has a population of over 76,000 residents and is located in Sydney's inner west. The whole of the area lies between 4 and 10km kilometres from the centre of the city. Marrickville exhibits features typical of older

inner city suburbs, and contains many items of heritage and cultural importance, including sites of Aboriginal significance.

1.2 The Marrickville Model and citizenship

Council's operations are currently guided by the Marrickville Model which is about integrating citizenship and corporate governance in a diverse, innovative and vibrant community. It defines Council's role and relationship with the Marrickville community. Council see itself as part of the community not separate from it. We see residents as 'citizens not customers' and treat citizen access and involvement in the democratic process as a priority. A key principle of the Model is to create a strong participative framework for community decision-making through consultation and an emphasis on community building initiatives. Social Capital and Sustainability are two of Council's "community building" goals.

1.3 Marrickville's Local Action 21 Strategy

Marrickville Council has a strong commitment to sustainability, which is guided by its Local Action 21 Strategy. The Strategy is made up of a series of linked action plans covering the themes of air, greenhouse, waste, water, biodiversity and "learning for sustainability".

The Strategy sets out to achieve ecologically sustainable development through developing environmental strategies with an emphasis on community involvement and community cohesion. The Local Action 21 Strategy was developed in close consultation with the community and is endorsed by Council.

1.4 Marrickville's Initiatives

Marrickville Council has undertaken numerous environmental projects in the area. Many of these projects are conducted along the Cooks River foreshores, and as Council is a member of the Cooks River Foreshore Working Group (CRFWG), a number of projects are carried out in

partnership with other councils and state government. Marrickville Council, together with the other Councils in the CRFWG, has made an ongoing commitment to improving the health and vitality of the Cooks River and the amenity of its foreshore and parklands.

For nine years Council has had an Environmental Volunteer Program to give the community the opportunity to participate and learn from real experience in the protection and enhancement of the natural environment. The volunteers play a vital role in working towards a more sustainable future and are involved in the revegetation and maintenance of a number of sites in Marrickville.

Marrickville Council is also undertaking the Urban Storm Water Integrated Management (USWIM) project, an exciting and innovative project being run in partnership with the School of Geography at Monash University, and previously with the University of New South Wales. The project has identified a range of innovative solutions specific to a highly urbanised environment to reduce the reliance of water brought in from outside the catchment, reducing water consumption, and reducing the quantity and impact of stormwater on waterways. A community working group has been established to maintain community ownership of the project.

In addition to an extensive program of environmental protection and education, Marrickville Council is involved in The Watershed, a Sustainability Resource Centre located in the heart of Newtown. It is a joint initiative of City of Sydney and Marrickville Councils, and part of an ongoing commitment to supporting sustainable environments. Originally funded by the NSW Stormwater Trust with a focus on stormwater pollution and water consumption, The Watershed has expanded its focus to embrace innovative solutions to sustainability.

2. Scope of the Submission

This submission addresses each of the Terms of Reference set by the Parliamentary Steering Committee No 5:

(a) *The environmental impact of the proposed desalination plant at Kurnell*

(b) *The environmental assessment process associated with the proposed desalination plant*

(c) *Methods for reducing the use of potable water for domestic, industrial, commercial and agricultural purposes, including sustainable water consumption practices*

(d) *The costs and benefits of desalination and alternative sources of water including recycled wastewater, groundwater, rainwater tanks and stormwater harvesting.*

2.1 Point (a) – the environmental impact of the proposed desalination plant at Kurnell

Marrickville Council believes that there will be significantly greater environmental impacts than outlined in the Environmental Assessment (EA) of the Concept Plan. These are detailed below.

Wider environmental impacts

Impacts on the natural environment at Kurnell Peninsula and Botany Bay

It is of great concern to Council that the desalination plant and associated intake and outlet pipelines are proposed to be located at and offshore Kurnell in close proximity to and within highly sensitive environments. To the east of the proposed plant site is the Botany Bay National Park and to the west is the Towra Point Aquatic Reserve, both of which contain endangered and threatened ecological communities. Construction impacts and long term water quality impacts on these endangered and threatened communities associated with the Plant and infrastructure, such as a tunnel under the headland, are of great concern.

Council is concerned that highly concentrated seawater will impact on the marine environment. The EA outlines that potential impacts from the seawater concentrate will be an increase in seawater temperature (between 1 – 2 °C), salinity and suspended solids and a decrease in nutrients and water pH balance. These impacts require further investigation as they have been inadequately addressed in the EA.

Marrickville Council is opposed to the laying of a pipeline along the seabed of Botany Bay, and its impacts have not been adequately addressed in the EA. Botany Bay has significant deposits of mud/sediment containing heavy metals and other contaminants that have been deposited over the many years when there was little knowledge about these contaminants or consideration for the environment. If the pipeline is to be laid along the seabed of Botany Bay, it is likely that the disturbance will release contained contaminants causing significant water pollution, fish kills, impacts on birdlife and the benthos. The potential risk caused by the disturbance and disposal of these toxins makes this type of work highly undesirable.

Additionally, sea grasses which grow in Botany Bay provide habitat for marine fauna, stabilise sediments and generally improve environmental quality of the Bay. It is of great concern that any loss or damage to the sea grasses will result in a loss of habitat and environmental quality of the Bay. It is extremely difficult and impractical to conduct "seagrass restoration" as the seabed is a dynamic environment with constantly shifting sediments.

Increase in greenhouse gas emissions

The EA states that the desalination plant will be powered by energy from the grid. Operation of the larger plant will result in a 1.2% increase in NSW energy demand and a 0.3% increase for a 125ML/day plant. The 125ML/day plant operating all year would consume approximately 225GWh of electricity, which is approximately 240,000 tonnes of CO_2 equivalents per annum. A 500ML/day plant operating all year would consume approximately

906GWh of electricity, which is approximately 950,000 tonnes of CO_2 equivalents will be produced per annum. Although the EA considers renewable energy sources and a gas powered plant, both of which produce fewer emissions than coal-fired energy, these are deemed too expensive for the project.

The high energy demands of the plant and the requirement to use energy from coal-fired plants causes a significant and unacceptable increase in greenhouse gas emissions. The proposed plant will consume an objectionable level of non-renewable energy.

Furthermore the EA states that:

> *"Sydney Water has made commitment to effectively reduce greenhouse gas emissions from the operation of the plant by 50 per cent. This will be achieved through a portfolio of greenhouse gas reduction strategies including purchasing of renewable and gas energy and purchase of offsets....This reduction results in emissions equivalent to less energy intensive water supply options such as wastewater recycling."*

Council considers the above statement a reactive and insufficient mitigation measure to a proposal which has unacceptable environmental costs. In spite of proposed purchasing offset measures, the plant will still result in a significant increase in non-renewable energy consumption and greenhouse gas emissions. Consideration of alternative water supply strategies, which are proven to be sustainable and more energy efficient, should be invested in for the future of our community and the environment.

Direct impacts on the Marrickville Council local government area

The proposed desalination plant and its infrastructure will directly impact the community of Marrickville Council primarily during the construction of pipelines, which will be passing through the local government area connecting the proposed desalination plant with the

Sydney's water distribution network. This will result in direct environmental impacts in the area, and broader impacts on Council's existing and future programs.

Council considers the lack of information provided in the EA objectionable, in particular, no information has been provided about the construction route, method of construction or timeframe, which does not allow Council to properly assess its impacts on the environment and community. However, Council has reviewed the documentation available and details the potential impacts below.

Impacts during construction

Council has concerns about the numerous impacts of pipe laying within the local government area, which include an increase in dust and noise, increased traffic movements, risks associated with the transportation of spoil, impeded access to properties, the creation of potentially contaminated spoil, and impacts on heritage and streetscapes.

In addition, pipe laying around the highly sensitive environment of the Cooks River foreshore raises significant concerns about the issues of erosion, contaminated soils, acid sulfate soils and flood management.

Loss of open space and community parklands

As indicated by the limited information provided in the EA, Council considers it highly likely that the laying of a pipeline will impact on the Cooks River and its foreshores. Many of Marrickville Council's parklands, playing fields and community open spaces are located along the foreshore of the Cooks River, including Mackey Park, Warren Park, Kendrick Park and Tempe Reserve. These parks are a highly valued resource to Council and the community and well utilised by the community and sporting groups.

It is of great concern to Council that the construction of the pipeline through the parks and along the Cooks River foreshore will result in the loss of space and parklands for the community. This is a significant issue within the Marrickville Council local government area as there are limited areas of open space comparable to other areas in Sydney.

Due to the lack of detail provided on the proposed desalination plant, Marrickville Council is unable to properly assess the impacts of pipe laying on parklands and the foreshore. However, in the event that the proponent does impact the surface in these areas by trench pipe laying it is anticipated that the impacts will be significant for Council and the community. Construction impacts are likely to impede access to affected parklands and heavy machinery may cause damage to grass, trees and plantings, playing fields and restrict the use of parks for sporting groups and the community, resulting in potentially long term impacts to the amenity of the parks. Impacts will also be associated with the requirements for Sydney Water to maintain access to these pipelines in the long term, including a reduction of Council's opportunity for use of those lands.

Furthermore the cycle path along the Cooks River is identified in the Sydney Metropolitan Strategy and also in the RTA's "Action for Bikes – BikePlan 2010" as a regional cycleway. Funding has been granted to Marrickville Council by the RTA and Department of Planning for ongoing upgrade works to the cycle path. It is identified as a significant community asset not only for the residents of the Marrickville LGA, but the wider community. The construction impacts of pipeline laying and/or tunnelling could compromise the upgrade or useability of the cycle path.

Disturbance of potentially contaminated land

Council has significant concerns regarding the impacts of potentially contaminated sites and management of spoil during construction of the proposal. There is anecdotal evidence to

suggest that a number of Council owned parks, reserves and foreshore areas within the local government area have been the subject of uncontrolled tip activity over a period of several decades which may be contaminated. Contamination issues are also likely to affect Council's road reserves sites in the area of the proposed pipe laying. Council is unable to provide definitive advice on the degree of contamination of these fill sites.

Failure to consider the possibility of contamination may result in increased risks to human health, detrimental impacts on the environment and impacts of safety on existing and new infrastructure.

Furthermore, sites located in the vicinity of the distribution pipeline route indicated in the EA, for example Council owned lands at Tempe Reserve, have been subject to extensive and costly remediation works. These areas have been certified as Declared Remediation Sites by the EPA in accordance with the *Contaminated Land Management Ac 1997*. Marrickville Council would like to ensure that remediation works will not be compromised in any way by the proposed pipe laying or tunnelling works.

Acid sulfate soils

Council's current planning instruments identify areas adjoining and in the vicinity of the Cooks River which are affected by acid sulfate soils. Council has concern about the impact of large scale trenching and spoil disturbance resulting in the oxidisation of acid sulfate soils and the discharge of acid water from the area of the proposed development, in particular its impact on the Cooks River.

The Environmental Assessment provides no detail on the management of acid sulphate soils. Council objects to this proposal in relation to the potential for large scale damage to the Cooks River due to acid sulfate soils.

Cooks River flood zone

Marrickville Council has mapped lands surrounding the Cooks River designated as 'flood liable lands'. Council is concerned that proposed works may occur on flood liable lands.

Potential impacts on European and Aboriginal heritage (within the Marrickville LGA)

Marrickville Council is concerned about the potential impact of pipe laying and/or tunnelling of the proposed infrastructure on European and Aboriginal heritage within the Marrickville local government area. It is of great concern to the Council that the EA does not assess the potential impacts of construction works on heritage.

There are many items of local significance identified in Schedule 5 of *Marrickville Local Environmental Plan 2001* within the South Marrickville and Tempe areas, which are within the affected area as indicated in the EA, including Federation, Victorian and Edwardian houses, water and sewer infrastructure and design features. In addition, there are items on the State Heritage Register which are also in the vicinity of the proposed works, including the Cooks River Sewer Aqueduct.

Furthermore, it is of great concern to the Council that the EA does not mention Aboriginal heritage located outside the Kurnell Peninsula. It should be noted that an Aboriginal Midden is located in Kendrick Park. This site is registered with the New South Wales National Parks and Wildlife Service Aboriginal Sites Register (Ref no 45-6-2198 and 45-6-2358) and is an important item of Aboriginal heritage in the Marrickville LGA which should not be impacted.

In addition many of Marrickville Council's public domain features have heritage significance and likely to be impacted by construction activity along road reserves. These features include street names inlaid in the footpaths (Heritage Item 2.52 of *Marrickville Local Environmental*

Plan 2001), brick footpaths and road pavements, sandstone and trachyte kerb and guttering, concrete roads and street trees. It is policy of Council to place conditions on any development to ensure that any construction works preserve the condition of these features. For example, should the concrete roads be broken it is Council's priority that the whole slab be replaced instead of simply being backfilled.

Impacts on the riverbed of the Cooks River

The bed of the Cooks River has significant deposits of mud/sediment containing heavy metals and other contaminants that have been deposited over the many years when there was little knowledge about or environmental consideration for the River.

The EA does not indicate how the pipeline will cross the Cooks River. If the pipeline were to be laid on the riverbed, it is of great concern to Council that disturbance of sediments will release contained contaminants causing significant water pollution, fish kills, impacts on birdlife and the benthos. As highlighted in the *Cooks River Foreshores Strategic Plan*, a major investigative study is required before any dredging/disturbance works are commenced. The potential risk by the disturbance and disposal of these mud-based toxins makes this type of work highly undesirable.

Marrickville Council objects to the pipeline being laid on the foreshore and/or the riverbed of the Cooks River. If the pipeline must cross the Cooks River, it should occur at an existing crossing point, such as the Cooks River Bridge, or be tunnelled at an appropriate depth to minimise disturbance of the riverbed and foreshores.

Impacts on existing habitats

Contrary to the Environmental Assessment's statement about "lack of habitat" for native flora and fauna (page 8.17), Marrickville Council would like to highlight that there are two areas of

remnant vegetation along the Cooks River Foreshore within Mackey Park and several native trees of significance, which may be directly impacted by the pipeline construction. It is also important to note that some non-native vegetation can provide essential habitat for native fauna including birds and mammals. For instance, dense patches of the weed species Lantana that is present along the foreshore provides cover and nesting sites for small birds and lizards.

The Environmental Assessment also greatly underestimates the number of fauna species that occur in the area which may be affected by the proposed pipeline. Within the Marrickville local government area four species of mammal have been recorded, eight species of frogs and lizards and eighty-one species of native bird. In addition, recent sightings of species listed as threatened or vulnerable include micro bats and the turquoise parrot. Council is concerned about the impact that the proposed construction will adversely impact on these species due to loss or disturbance of habitat.

Marrickville Council has been involved in many projects over a number of years to improve the local environment, with a particular focus on increasing biodiversity and habitat value along the Cooks River foreshores. Council is concerned that the proposed pipeline construction will impact on the natural environment along the foreshore. The Cooks River parklands and vegetation along road reserves play an essential role as habitat corridors for local wildlife in a highly urbanised area.

Council would like to see the proponent of the proposed desalination plant undertake detailed mapping of the remnant vegetation and important flora and fauna habitat areas and detail methods of protection to these areas and expected revegetation requirements. This should be undertaken in consultation with Marrickville Council.

Damage to trees

It appears that much of the pipe laying will occur in the road reserves in South Marrickville. Whilst Council is supportive of pipe laying in existing road reserves due to minimising impacts on properties and natural vegetation, it should be noted that road reserves contain street trees, many of which are native species or non-natives that provide important habitat for birds and other fauna, and also have significant amenity value. These trees provide essential links between larger patches of native vegetation on public and private land. Disturbance to tree roots can cause dieback which can result in the loss of the tree a number of years after the disturbance occurred.

Stormwater pollution and dust

Mismanaged spoil can have a number of negative impacts on the local environment and community, including stormwater pollution and dust. Dust can be a health issue to residents neighbouring construction sites as well impacting water quality, flora, fauna and aquatic ecosystems. Council is also greatly concerned about exposing the community to contamination resulting from the disturbance of the soil and or storing contaminated spoil on site. It is essential to note that the dust and stormwater runoff impacts would be greatly magnified should the spoil be contaminated, which is considered by Council to be a critical issue given the close proximity of the Cooks River and residents in this area.

Impacts on Council's programs

The delivery of the desalination plant pipeline infrastructure will directly impact a number of programs that are being, or have been, undertaken within the Marrickville Council local government area. These programs represent thousands of hours of community volunteer time, scientific research and Council project staff time supported by Council revenue and grant funding and over nine years of Council and community commitment to improving the Cooks River Foreshores.

- ***Cooks River foreshores projects***

Marrickville Council, together with the other Councils that border the Cooks River Foreshore has made an ongoing commitment to improving the health and vitality of the Cooks River and the amenity of its foreshore and parklands. The Cooks River Foreshore Working Group (CRFWG) was formed in 1997 and is a voluntary association of municipal councils and State Government agencies who are working together to bring about a more holistic and coordinated approach to the management of Cooks River and its foreshores. Core members include the following Councils: Bankstown City Council, Burwood, Canterbury City, City of Sydney, Marrickville, Rockdale, and Strathfield. The CRFWG receives funding from state government, grants and member councils.

The CRFWG plays a pivotal role in steering Cooks River improvement initiatives and is guided by the vision, objectives and strategies of the Cooks River Foreshores Strategic Plan. It also plays a fundamental role in the implementation of the NSW Government's Cooks River Foreshore Improvement Program.

All dimensions of the Cooks River's long Aboriginal and European history are recognised by the Cooks River Foreshore Councils. Various programs are in place to restore and conserve native plant communities and a range of wildlife habitats, as well as to improve the overall amenity of the area for the community.

The Environmental Assessment for the proposed desalination plant does not acknowledge or consider the impacts on the Cooks River Foreshores Strategic Plan nor the projects being undertaken by participating Councils along the Cooks River. The CRFWG has spent years developing the strategy and working collaboratively, to implement projects which have a positive effect on the natural and cultural amenity of the Cooks River to the community. The

proposed desalination plant has the potential to seriously undermine more than a decade of work by the community and councils to "create a vital and dynamic River system representing in all its dimensions a healthy natural environment within its urban landscape" (Cooks River Foreshores Strategic Plan 1997).

- ***Ecological and environmental monitoring program***

It is of particular concern to Council that the Environmental Assessment states *"there is some potential for impacts on Grey Mangroves and intertidal areas...through bank disturbance, erosion and sedimentation"* (pg 8.19).

Since 2005 Marrickville, Rockdale and Canterbury City Councils have been collating data for an ongoing ecological monitoring program of the flora and fauna of the Cooks River and its foreshores. These results will enable the quantification of environmental management improvement programs on the local ecosystem. Any damage to these habitats, such as vegetation removal, altered sedimentation rates and altered run off rates, will directly impact the results of this monitoring program potentially jeopardising them and compromising the integrity of the project. Of particular concern are monitoring sites at Muddy Creek, Tempe Recreation Reserve, the mouth of Wolli Creek and the muddy flats around Fatima Island.

A Mangrove Management Plan is currently being drafted as part of the Cooks River Foreshore Improvement Program, in consultation with the Cooks River Councils and Community groups. Any damage to mangroves along the Cooks River will adversely impact the aims and goals of this plan.

Council is also establishing nine Surface-Elevation Tables and feldspar marker horizons to examine the coastal wetland surface elevation and sedimentation dynamics. Any works that alter the sedimentation regime of the River, such as runoff from trench diggings, will

jeopardise the high precision measurements of the change in surface elevation of intertidal and shallow sub-tidal environments.

These projects are funded and supported by Marrickville Council with assistance from NSW Government grants, Landcare and the Wolli Creek Preservation Society (a community organisation). Damage to these projects will result in significant ramifications for organisations which have provided funding assistance and Council's ability to seek further funding for these projects.

- ***Biodiversity mapping program***

Council is currently undertaking a mapping program of the native vegetation along the Cooks River foreshore to develop a biodiversity database. This incudes the benthos, mangroves and saltmarshes, as well as adjacent terrestrial habitats. Council has made a commitment to increasing local habitat in its Local Agenda 21 Strategy. As part of this commitment habitat corridors are being established to link islands of remnant vegetation and increase habitat value of the area. Pipeline construction could compromise the integrity of this program and reduce habitat in the local area.

- ***Revegetation activities***

Council has an active and ongoing program to increase the areas of native vegetation within the local government area to improve the biodiversity of the Marrickville area and to complement Council's parks improvement program, particularly along the Cooks River Foreshores.

Significant work has been undertaken over a number of years by community volunteers who revegetate and maintain a number of sites which may be directly impacted by the desalination plant pipeline project. Volunteers include the Marrickville Landcare group (which looks after three sites along the Cooks River foreshore), residents attending community planting days, and

local community groups, including culturally and linguistically diverse (CALD) groups, carrying out tree planting activities. These revegetation activities are highly valued by Council and the community and represent thousands of hours of volunteer time.

This high level of involvement by the Marrickville community has taken years to foster. Any damage or destruction of volunteer planted and maintained sites by the pipeline construction may jeopardise Council's relationship with local volunteers and groups, could cause considerable angst within the local community and damage the community spirit of caring for the local environment.

- ***Kendrick Park foreshore restoration project***

Marrickville Council and the CRFWG have been involved in the Kendrick Park Foreshore Restoration Project since 2002. It is funded by Marrickville Council and State Government and is part of the Kendrick Park Masterplan which incorporates refurbishment of the path network, facilities and cycleway.

The project involves detailed design and on-ground works for the rehabilitation of eroding banks and restoration of salt marsh and other local native riparian vegetation along the foreshores at Kendrick Park. Pipeline construction could severely impede this project and in fact damage the Cooks River foreshore along this area.

- ***Local sustainable water projects***

Marrickville Council has made a commitment to manage water sustainably. Council has been working with the community on the Urban Stormwater Integrated Management Project since 2003. This project seeks to deal with stormwater as a resource rather than a problem, whilst reducing water consumption, and a number of innovative solutions have been developed.

Marrickville Council has serious concerns that the Desalination Plant Project is conveying the wrong message to the community about water use and that it will compromise the aims of the Urban Stormwater Integrated Management Project. The proposed desalination plant threatens to undermine Council's efforts of encouraging the community to adopt sustainable solutions to water shortages such as stormwater and rainwater harvesting, and water recycling.

2.2 Point (b) – The environmental assessment process associated with the proposed desalination plant

Marrickville Council is extremely dissatisfied with the inadequate environmental assessment process associated with the proposed desalination plant and the distribution infrastructure. It is likely that Marrickville Council will be directly impacted in some capacity by the construction of the delivery infrastructure, depending on the final route of the distribution pipeline, although this information has not been provided with any certainty.

The Environmental Assessment (EA) for the proposed desalination plant states that the Concept Plan is sufficient to *"assess the key environmental aspects of the project and determine the required level of environmental management and monitoring for the project"*. However, the EA provides no confirmation of the distribution routes or the environmental impacts of the project.

The process provides no opportunity for the community or Council to be consulted with prior to the routes being finalised. This is considered unacceptable and is not in the spirit of the *Environmental Planning and Assessment Act 1979*, (EP&A Act) which states in Part 5 of the Act that opportunity shall be given to the community in the development assessment process:

"The objects of this Act are:

...(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment."

Recent reforms to the EP&A Act, specifically the Part 3A assessment process, does not provide the public with an opportunity to provide detailed and informed feedback into the proposed development. Council believes that it is a significant deficiency in the planning process to allow a concept development to be assessed and not require further planning assessment for the construction or operation.

Marrickville Council has sent a submission to the Department of Planning on the Environmental Assessment of the Concept Plan for the proposed desalination plant. The submission outlines Council's concerns about the project and potential environmental impacts. It includes recommendations and proposed conditions of consent to mitigate environmental impacts, particularly along the Cooks River and its foreshores. However, it is questionable as to whether these requests will be taken on board. It is important to Council that the proponent is held accountable for their actions and subject to approval processes, conditions of consent and monitoring processes. This is essential for the protection of our environment, and the continuation of programs working to improve the environment and involve the community.

Recent workshops held as part of the environmental assessment consultation process have illustrated that there is little community support for the proposed desalination plant. The community is dissatisfied with the lack of information provided about the proposed desalination plant, and with the lack of investigation into alternative water technologies. There is also the sense that any consultation being carried out is a token gesture and "after the fact" as the decision has already been made to go ahead with construction of the desalination plant.

Marrickville Council has serious concerns about the unsatisfactory level of information provided in the EA of the Concept Plan in relation to the impacts of the construction of the pipeline on the local environment and on Council's programs. Precise details of the

desalination plant, including final distribution routes, construction methods and other associated infrastructure have not been made available.

The EA contains dismissive and incorrect statements such as *"potential pipeline routes...have few impacts in biodiversity, threatened or endangered species"* (pg8.18) and *"impacts on these communities are unlikely to be significant due to the degraded nature of the edges"* (pg 8.19). These statements indicate the considerable lack of research undertaken by the proponent into the local environment and therefore poor environmental assessment in relation to the impact of the proposal. The EA also does not adequately address the issue of vegetation loss in parks or along road reserves as a result of the pipeline construction.

Marrickville Council is concerned about the lack of detail of the EA in relation to spoil management within the local government area during pipeline construction. The EA does not include any information on spoil management along this route and this area is omitted in Table 9.1 *Scope of potential spoil activity*. There are concerns that spoil issues in the Marrickville Council area have been overlooked, particularly as contaminated spoil may be encountered here.

The EA does not acknowledge or consider the impacts on the Cooks River Foreshores Strategic Plan nor the projects being undertaken by participating Councils along the Cooks River. The Cooks River Foreshore Working Group (CRFWG) have spent years developing the strategy and working collaboratively, to implement projects which have a positive effect on the natural and cultural amenity of the Cooks River to the community. The proposed desalination plant has the potential to seriously undermine more than a decade of work by the Community and Councils to "create a vital and dynamic River system representing in all its dimensions a healthy natural environment within its urban landscape" (Cooks River Foreshores Strategic Plan 1997).

The EA does not assess the potential impacts of construction works on heritage. There are many items of local significance identified in Schedule 5 of *Marrickville Local Environmental Plan 2001* within the South Marrickville and Tempe areas, which are within the affected area as indicated in the EA, including Federation, Victorian and Edwardian houses, water and sewer infrastructure and design features. In addition, there are items on the State Heritage Register which are also in the vicinity of the proposed works, including the Cooks River Sewer Aqueduct.

Furthermore, the EA does not mention Aboriginal heritage located outside the Kurnell Peninsula. It should be noted that an Aboriginal Midden is located in Kendrick Park.

The EA does not indicate how the pipeline will cross the Cooks River. If the pipeline were to be laid on the riverbed, it is of great concern to Council that disturbance of sediments will release contained contaminants causing significant water pollution, fish kills, impacts on birdlife and the benthos.

2.3 Point (c) – Methods for reducing the use of potable water for domestic, industrial, commercial and agricultural purposes, including sustainable water consumption practices.

Marrickville Council has made a commitment in its Local Action 21 Strategy to manage water sustainably. Council has serious concerns that the desalination plant proposal conveys the incorrect message to the community about water use and that it will compromise the principle of sustainable water usage in the population.

It is of great concern that the proposal will undermine Council's efforts of encouraging the community to adopt sustainable solutions to water shortages such as stormwater and rainwater

harvesting, installation of water saving devices and water recycling. The production of more water via a desalination plant will discourage the population from conserving water.

Council believes that an investigation should be undertaken with regard to sustainable water options which are already in operation within Sydney to avoid the financial and environmental costs of the proposed desalination plant.

2.4 Point (d) – The costs and benefits of desalination and alternative sources of water including recycled wastewater, groundwater, rainwater tanks and stormwater harvesting.

The Desalination Plant is contrary to objectives contained in Sydney Water's long term strategic plan, Waterplan 21. A key objective of Waterplan 21 is to provide "sustainable water supplies" and lists various methods and programs to reduce water demands. These include water conservation strategies, recycling of grey water, stormwater and effluent, and accessing local water supplies through rainwater tanks. In relation to treating seawater, Waterplan 21 states:

> *"The disadvantages of desalination are that it costs between $2.00 and $3.00 per kilolitre and requires large amounts of energy. The environmental impact is potentially significant due to the discharge of the heavily concentrated salt waste stream known as brine."*

It acknowledges the environmental and economic cost of operating a desalination plant and recognises alternatives which provide cheaper and environmentally sustainable outcome than the desalination plant.

Marrickville Council is opposed to the proposed construction and operation of the desalination plant, viewing it as unsustainable and short-sighted for a number of reasons:

- desalination requires significantly higher inputs of energy than other water supply options such as stormwater harvesting and waste water recycling, contributing to greenhouse gas emissions and global warming;
- the effects of desalination outputs on marine life and hydrological cycles have not been thoroughly investigated;
- the impact of the proposed desalination plant on habitat in the vicinity and on the amenity of the surrounding residential area have not been adequately assessed; and
- the communities and councils affected by the proposed desalination plant have only been consulted after the decision has already been made to go ahead with the project.

In addition, desalination does not address or allow better address of a "fit-for-purpose" model. This results in potable water – which is expensive to produce – being continually used for non-potable means. This is illustrated by the fact that up to 78% of potable water from one sub-catchment in Sydney Water (within Marrickville Council) is sent to ocean outfalls. The financial outlay required to construct and operate the desalination plant would be better spent on retrofitting houses and infrastructure with a dual pipe system to enable the appropriate distribution of "fit-for-purpose" water.

As an alternative to desalination, Marrickville Council supports a range of sustainable water management practices that encourage a respect for water within the community, a culture of water conservation and the protection of aquatic environments.

These include:

- *The widespread adoption of rainwater harvesting technology throughout the residential, commercial and industrial sectors, supported by substantial State Government rebate schemes, advertising and a strong regulatory framework for new developments.*

With up to 45% of impervious surface area in ultra urban environments made up of rooftops, rainwater harvesting has the additional benefit of reducing stormwater flows and the contamination of waterways. This will result in improved amenity leading to positive outcomes for tourism, community recreation and biodiversity conservation. There will also be a reduction in costs associated with flood events and the development and maintenance of flood management infrastructure, as well as decreased costs associated with the installation and maintenance of gross pollutant traps and other stormwater infrastructure.

- *The harvesting of stormwater on public open space, particularly in the upper catchment, using bio-retentions cells, constructed wetlands, swales and detention ponds. This water can be used for irrigation of public spaces including street trees, sports fields and parks.*
  By capturing water in the landscape the amenity of the surrounding area is improved and water that would have been a contaminated waste product becomes a resource. When implementation is widespread and combined with a concerted approach to the greening of the cityscape, capturing water in the landscape can also result in cloud seeding and a resultant increase in local rainfall.

- *The widespread adoption of domestic grey-water reuse and of the recycling of water in industrial and commercial contexts supported by education, progressive policy shifts by Local and State Governments and financial investment into research and development.*

- *The appropriate use of recycled and appropriately treated sewage for purposes such as the irrigation of golf courses and race courses.*

- *The immediate introduction of mandatory retrofitting of all public and privately owned residential, commercial and industrial buildings with water-efficient fittings and appliances, supported by education and an appropriate rebate scheme.*

- *Regulatory action requiring the manufacture of non water-efficient appliances ceases.*

  Research carried out by Marrickville Council in partnership with Monash University's School of Geography and Environmental Science through the Urban Stormwater Integrated Management project has revealed widespread community support for these approaches.

- *Participatory sustainable water management involving the local community.*

  Marrickville Council strongly believes that sustainable water management needs to be participatory. Unless the community is directly involved in water management, through recycling, conservation and the hands-on restoration of ecosystems, they will not develop the awareness and respect that required for the long-term protection of this finite resource.

  Current patterns of water management are having devastating effects on our environment through the pollution and eutrophication of waterways, the destruction of marine habitats and the frightening realities of ground water contamination and dry land salinity. The options outlined above have the additional benefit of providing this participatory framework.

Cost / Benefit Analysis

When considered over the lifecycle of the project, the financial, social and environmental costs of desalination will be substantial including:

- cost of development and construction;
- operation and maintenance costs;
- loss of marine habitat, requiring costly remediation; and
- exacerbation of global warming through increased greenhouse gas emissions leading to devastating and costly problems in the future such as global warming, climate change and sea level rise.

In contrast, the options outlined earlier require a substantial initial outlay but very little financial expense in the long-term. They also have negligible environmental impacts.

When compared with alternative strategies, which provide a diverse and sustainable water supply over the long-term, desalination does not offer any substantial benefit to the community. Although desalination is perceived to be more palatable to the community, research undertaken by Marrickville Council suggests that the majority of residents are willing to use recycled water for a number of non-potable purposes, as outlined below.

Table: Combined catchment responses regarding consideration of uses of treated recycled water.

(An extract from the "Marrickville Community Water Survey Report: Findings of community surveys October/November 2003", funded by the Stormwater Trust as part of the USWIM project)

Use	Would Consider Treated Recycled Water (n=325)
Drinking	4%
Cooking	5%
Showering	17%
Washing clothes	39%
Washing car	79%
Flushing toilet	86%
Watering garden	93%

3. Conclusion

It is hoped that the Inquiry will firmly establish that the desalination plant is an expensive, unreasonable and unsustainable option for Sydney's water supply, and that there are numerous sustainable alternatives currently available, many of which are already being implemented.

Desalination is not a sustainable option and Marrickville Council opposes its implementation without a thorough independent investigation into the feasibility of other options. Should these options be assessed as viable, Marrickville Council supports their prompt and widespread implementation.